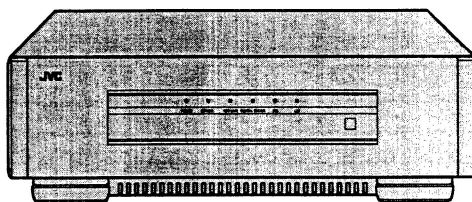
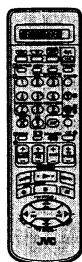


JVC

SERVICE MANUAL

D-VHS DIGITAL RECORDER

HM-DR10000EU



SHOWVIEW®

Hi-Fi DVHS MTP PAL

SPECIFICATIONS

GENERAL

Power requirement	: AC 220 – 240 V~, 50/60 Hz
Power consumption	
Power on	: 36 W
Power off	: 8.7 W
Temperature	
Operating	: 5°C to 40°C
Storage	: -20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 468 x 145 x 369 mm
Weight	: 8.0 kg
Maximum recording time	
D-VHS (STD)	: 420 min. with DF-420 video cassette
D-VHS (LS3)	: 1260 min. with DF-420 video cassette
S-VHS/VHS (SP)	: 240 min. with E-240 video cassette
S-VHS/VHS (LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO (D-VHS)

Format	: MPEG2 standard mode
Track composition	
Tape speed	: 16.67 mm/sec (STD mode) 5.56 mm/sec (LS3 mode)
Head azimuth	: ±30 deg
Drum rotation	: 1800 rpm
Tracking system	: CTL track system
Recording specification	
Main data input rate	: 14.1 Mbps (STD mode) 4.7 Mbps (LS3 mode)
Sub data input rate	: 0.146 Mbps (STD mode) 48.7 Kbps (LS3 mode)
Recording rate	: 19.14 Mbps
Track structure	: 1 Sector
Length of sync block	: 112 bytes
Inner ECC	: RS code
Outer ECC	: RS code
Code word shuffling	: 6 tracks
Modulation system	: SI-NRZI

VIDEO/AUDIO (S-VHS/VHS)

Format	: S-VHS/VHS PAL standard
Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields

Recording system	: DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)

CONNECTOR

Input/Output	: 21-pin SCART connectors : IN/OUT x 1, IN/DECODER x 1 RCA connectors: VIDEO IN x 1, AUDIO IN x 2, AUDIO OUT x 1 S-Video connectors: IN x 2, OUT x 1 DV connector : IN x 1 (4-pin, IEEE1394 conformity, digital input)
--------------	---

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470MHz UHF 470 – 862MHz
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable, S-Video cable, 21-pin SCART cable, DV cable, Power cord, Infrared remote control unit, "R6" battery x 2
----------------------	---

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

TABLE OF CONTENTS

Section	Title	Page	Section	Title	Page
Important Safety Precautions					
INSTRUCTIONS					
1. DISASSEMBLY					
1.1	DISASSEMBLY FLOW CHART	1-1	3.2.1	Switching point	3-2
1.2	HOW TO READ THE DISASSEMBLY AND ASSEMBLY	1-1	3.2.2	D-VHS switching point	3-3
1.3	DISASSEMBLY/ASSEMBLY METHOD	1-2	3.2.3	Slow tracking preset	3-3
1.4	SERVICE POSITION	1-6	3.3	VIDEO CIRCUIT	3-3
1.4.1	How to take out the Mechanism and MAIN board assemblies	1-6	3.3.1	EE Y level	3-3
1.4.2	Precautions for cassette loading in the "SERVICE POSITION"	1-8	3.3.2	SP/LP REC colour level	3-4
1.4.3	Cassette loading and ejection methods in the "SERVICE POSITION"	1-8	3.3.3	PB Y level (S-VHS/VHS)	3-5
1.4.4	Opening on the chassis	1-8	3.3.4	Video EQ (Frequency response)	3-5
1.5	MECHANISM SERVICE MODE	1-9	3.3.5	Pilot burst level	3-6
1.5.1	How to set the "MECHANISM SERVICE MODE"	1-9	3.3.6	AUTO PICTURE initial setting	3-6
1.5.2	How to exit from the "MECHANISM SERVICE MODE"	1-9	3.4	3D SVHS CIRCUIT	3-6
1.6	EMERGENCY DISPLAY FUNCTION	1-10	3.4.1	D/A level	3-6
1.6.1	Displaying the emergency information	1-10	3.5	AUDIO CIRCUIT	3-7
1.6.2	Clearing the emergency history	1-10	3.5.1	Audio REC FM	3-7
1.6.3	Emergency content description	1-11	3.6	DIGITAL CIRCUIT	3-7
1.6.4	Emergency detail description	1-12	3.6.1	CODEC AD Y input level	3-7
1.7	SYSCON CIRCUIT	1-14	3.6.2	CODEC S-Y level	3-8
1.7.1	Syscon CPU pin function (IC3001)	1-14	3.6.3	CODEC S-C level	3-8
1.8	CONNECTOR (WIRE) CONNECTIONS	1-16	3.6.4	D-VHS REC level	3-9
			3.6.5	PLL f0	3-9
			3.7	SYSCON CIRCUIT	3-9
			3.7.1	Timer clock	3-9
2. MECHANISM ADJUSTMENT			4. CHARTS AND DIAGRAMS		
2.1	PREPARATION	2-1	NOTES OF SCHEMATIC DIAGRAM		
2.1.1	Precautions	2-1	CIRCUIT BOARD NOTES		
2.1.2	Check without cassette housing assembly	2-1	4.1	BOARD INTERCONNECTIONS	4-2
2.1.3	Manual removal of loaded tape	2-1	4.2	SWITCHING REGULATOR SCHEMATIC DIAGRAM	4-3
2.1.4	Test Equipment	2-2	4.3	VIDEO/N.AUDIO SCHEMATIC DIAGRAM	4-7
2.2	MAIN MECHANISM PARTS	2-2	4.4	ON SCREEN SCHEMATIC DIAGRAM	4-9
2.2.1	Cleaning	2-3	4.5	FMA SCHEMATIC DIAGRAM	4-11
2.2.2	Lubrication	2-3	4.6	SYSCON SCHEMATIC DIAGRAM	4-13
2.3	INSPECTION AND MAINTENANCE	2-4	4.7	SYSCON SUB SCHEMATIC DIAGRAM	4-15
2.3.1	Suggested servicing schedule for main components	2-4	4.8	TUNER SCHEMATIC DIAGRAM	4-17
2.4	DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM	2-4	4.9	BS TUNER SCHEMATIC DIAGRAM	4-19
2.4.1	Precaution before disassembling mechanism	2-4	4.10	TERMINAL (MAIN) SCHEMATIC DIAGRAM	4-21
2.4.2	How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)	2-4	4.11	3D SVHS (VIDEO) SCHEMATIC DIAGRAM	4-23
2.5	MAIN PARTS REPLACEMENT OF MECHANISM	2-4	4.12	3D SVHS (3D/TBC) SCHEMATIC DIAGRAM	4-25
2.5.1	Pinch Roller Arm Assembly	2-4	4.13	TERMINAL SCHEMATIC DIAGRAM	4-27
2.5.2	A/C Head	2-5	4.14	DEMOMULATOR SCHEMATIC DIAGRAM	4-29
2.5.3	Pinch Plate	2-5	4.15	DISPLAY, OPERATION, REC SAFETY, CASS. SW AND JACK SCHEMATIC DIAGRAMS	4-31
2.5.4	Loading Motor	2-6	4.16	D-PRE/REC SCHEMATIC DIAGRAM	4-33
2.5.5	Lever Assembly, Sub Deck Assembly, Capstan Motor	2-6	4.17	FMA-PRE/REC SCHEMATIC DIAGRAM	4-35
2.5.6	Control Bracket	2-7	4.18	D-VHS SCHEMATIC DIAGRAM	4-37
2.5.7	Reel Disk (Take up)	2-7	4.19	E4UT SCHEMATIC DIAGRAM	4-39
2.5.8	Control Plate	2-7	4.20	ENC/DEC SCHEMATIC DIAGRAM	4-41
2.5.9	Sub Brake Assembly (Take up), Control Cam	2-8	4.21	DIGITAL IF SCHEMATIC DIAGRAM	4-43
2.5.10	Slide Plate	2-8	4.22	HOST SCHEMATIC DIAGRAM	4-45
2.5.11	Change Lever Assembly, Rotary Encoder	2-8	4.23	I/F ASIC SCHEMATIC DIAGRAM	4-47
2.5.12	Tension Arm Assembly, Tension Band Assembly, Reel Disk Assembly (Supply), Sub Brake Assembly (Supply), Clutch Unit (Supply), Take up Lever	2-9	4.24	AUDIO ASIC SCHEMATIC DIAGRAM	4-49
2.5.13	Take up Head, Tension Arm Lever	2-9	4.25	AUDIO AD/DA SCHEMATIC DIAGRAM	4-51
2.5.14	Guide Rail	2-10	4.26	SWITCHING REGULATOR CIRCUIT BOARD	4-53
2.5.15	Stator Assembly	2-10	4.27	MAIN AND A/C HEAD CIRCUIT BOARDS	4-57
2.5.16	Rotor Assembly	2-10	4.28	3D SVHS CIRCUIT BOARD	4-59
2.6	INSTALLATION OF MAIN PARTS (Mechanism Phase Alignment)	2-11	4.29	TERMINAL CIRCUIT BOARD	4-63
2.6.1	Before Assembly	2-11	4.30	DEMOMULATOR CIRCUIT BOARD	4-65
2.6.2	Loading Arm Assemblies (Supply, Take up)	2-11	4.31	DISPLAY, REC SAFETY, CASS SW AND JACK CIRCUIT BOARDS	4-67
2.6.3	Rotary Encoder, Change Lever Assembly, Control Cam	2-12	4.32	PRE/REC CIRCUIT BOARD	4-69
2.6.4	Slide Plate	2-12	4.33	DIGITAL CIRCUIT BOARD	4-71
2.6.5	Control Plate	2-12	4.34	REMOTE CONTROL SCHEMATIC DIAGRAM	4-77
2.7	MECHANISM TIMING CHART	2-13	4.35	FDP GRID ASSIGNMENT AND ANODE CONNECTION	4-78
2.8	COMPATIBILITY ADJUSTMENT	2-14	4.36	VOLTAGE CHARTS	4-79
2.8.1	Checking/Adjustment of FM Waveform Linearity	2-14	4.37	SYSTEM CONTROL BLOCK DIAGRAM	4-87
2.8.2	Checking/Adjustment of the Height and Tilt of the Audio Control Head	2-15	4.38	VIDEO BLOCK DIAGRAM (VHS)	4-89
2.8.3	Checking/Adjustment of the Audio Control Head Phase (X-Value)	2-16	4.39	VIDEO BLOCK DIAGRAM (D-VHS)	4-93
2.8.4	Checking/Adjustment of the Standard Tracking Preset	2-16	4.40	AUDIO BLOCK DIAGRAM	4-97
2.8.5	Checking/Adjustment of the Tension Pole Position	2-17	5. PARTS LIST		
3. ELECTRICAL ADJUSTMENT			5.1	PACKING AND ACCESSORY ASSEMBLY <M1>	5-1
3.1	PRECAUTION	3-1	5.2	CABINET ASSEMBLY <M2>	5-2
3.1.1	Required test equipments	3-1	5.3	CHASSIS ASSEMBLY <M3>	5-4
3.1.2	Required adjustment tools	3-1	5.4	MECHANISM ASSEMBLY <M4>	5-6
3.1.3	Colour bar signal, colour bar pattern	3-1	5.5	ELECTRICAL PARTS LIST	5-8
3.1.4	Jig RCU	3-1		SW REG BOARD ASSEMBLY <01>	5-8
3.1.5	EVR Adjustment	3-2		MAIN BOARD ASSEMBLY <03>	5-9
3.1.6	Switch settings and standard precautions	3-2		3D SVHS BOARD ASSEMBLY <05>	5-16
3.2	SERVO CIRCUIT	3-2		TERMINAL BOARD ASSEMBLY <06>	5-19
				AUDIO CONTROL HEAD BOARD ASSEMBLY <12>	5-21
				DEMOM BOARD ASSEMBLY <14>	5-21
				DISPLAY BOARD ASSEMBLY <28>	5-22
				REC SAFETY BOARD ASSEMBLY <32>	5-22
				CASS SW BOARD ASSEMBLY <33>	5-22
				JACK BOARD ASSEMBLY <36>	5-22
				PRE/REC BOARD ASSEMBLY <43>	5-22
				DIGITAL BOARD ASSEMBLY <50>	5-25

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the $\triangle$ symbol and shaded (■) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- | | | |
|--------------------|--------------------------------------|------------|
| 1) Insulation Tape | 3) Spacers | 5) Barrier |
| 2) PVC tubing | 4) Insulation sheets for transistors | |

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

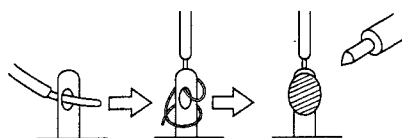


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

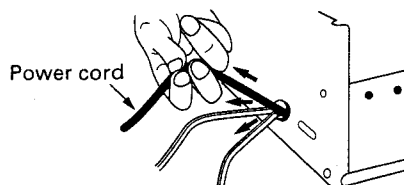


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

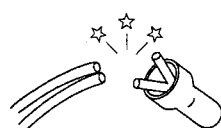
1) **Connector part number** : E03830-001

2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).



cut close to connector

Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

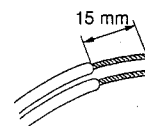
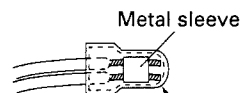


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.



Connector

Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

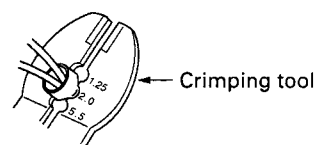


Fig.6

(5) Check the four points noted in Fig.7.

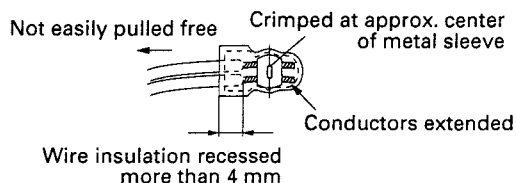


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

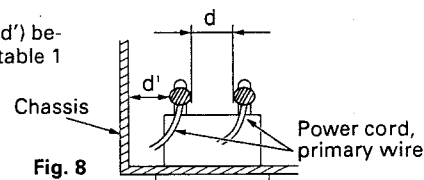


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

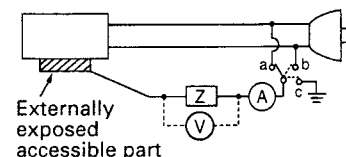


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

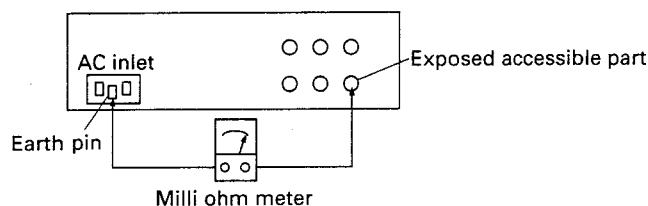


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class I)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ in parallel with $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
220 to 240 V		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING

- There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).
1. This recorder can also receive SECAM-B colour television signals for recording and playback.
 2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
 3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
 4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.



- Cassettes marked "D-VHS", "S-VHS" and "VHS" can be used with this video cassette recorder. However, D-VHS recordings are possible only with cassettes marked "D-VHS".
- D-VHS is a new digital memory system that uses D-VHS tapes. D-VHS was developed as a memory system for multimedia applications that require storage for large volumes of information, such as for digital video.
- ShowView is a registered trademark of Gemstar Development Corporation. The ShowView system is manufactured under licence from Gemstar Development Corporation.

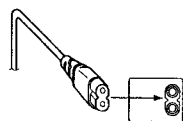
IMPORTANT

- Please read the various precautions on page 2 and 3 before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

For Italy:

"It is declared that this product, brand JVC, conforms to the Ministry Decree n. 548 of 28 Aug.'95 published in the Official Gazette of the Italian Republic n. 301 of 28 Dec.'95"

CAUTION



- To avoid electric shock or damage to the unit, first firmly insert the small end of the mains power cord into the recorder until it is no longer wobbly, and then plug the larger end of the mains power cord into a mains outlet.
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

INSTRUCTIONS

The STANDBY/ON ϕ /I button does not completely shut off mains power from the unit, but switches operating current on and off. " ϕ " shows electrical power standby and " I " shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. DO NOT place the recorder . . .

- ... in an environment prone to extreme temperatures or humidity.
- ... in direct sunlight.
- ... in a dusty environment.
- ... in an environment where strong magnetic fields are generated.
- ... on a surface that is unstable or subject to vibration.

2. DO NOT block the recorder's ventilation openings.

3. DO NOT place heavy objects on the recorder or remote control.

4. DO NOT place anything which might spill on top of the recorder or remote control.

5. AVOID violent shocks to the recorder during transport.

MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

ABOUT HEAD CLEANING

After an extended period of use, the video heads can become dirty, resulting in a loss of picture or sound during playback. If this happens, clean the video heads by using the optional cleaning tapes.

Symptoms of dirty video heads:

- The picture is not clear, or does not appear. There is no sound.
- Mosaic (block) noise appears in the picture.
- Black or mosaic horizontal stripes appear in the picture.
- The picture stops (as if the tape is paused).
- A blank black or blue screen appears.
- The picture is fuzzy. (VHS playback)

VHS playback



Early symptom



Late symptom

D-VHS playback



Block noise



Still image



Black screen

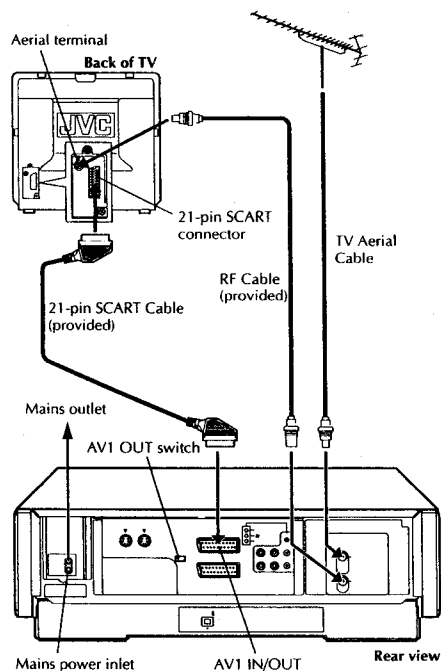
Use a cleaning tape designed specifically for D-VHS video heads (JVC D-VHS video head cleaner DFC-2) to clean the video heads.

- In order to avoid misoperation, set "NAVIGATION" to "OFF" ($\square$ pg. 39).
- Follow the instructions that are provided with the cleaning tape.
- Only use a cleaning tape designed specifically for D-VHS video heads to clean the video heads in this unit.

If you still do not get a clear picture after using a cleaning tape:

- The heads may be worn. Contact your nearest JVC dealer.
- During VHS playback, if there is a tracking problem, the picture may appear fuzzy. Adjust the tracking manually ($\square$ pg. 17).

Basic Connection



ATTENTION:

Your TV must have a 21-pin AV input connector (SCART) for the connection to the recorder.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (pg. 54). For output signal selection, use AV1 OUT switch of the rear panel.

- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:

- Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.
- For switching the TV's mode, refer to the instruction manual of your television.
- To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 5.

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

CHECK CONTENTS

Make sure the package contains all of the accessories listed in "Specifications" (pg. 82).

SITUATE RECORDER

Place the recorder on a stable, horizontal surface.

CONNECT RECORDER TO TV

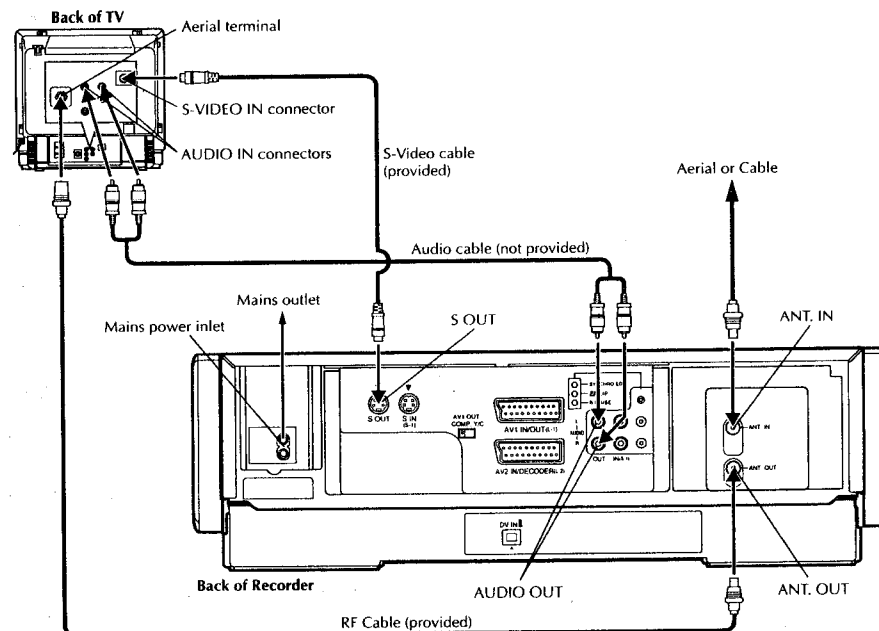
- Disconnect the TV aerial cable from the TV.
- Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
- Connect the provided RF cable between the ANT. OUT jack on the rear panel of the recorder and the TV's aerial terminal.
- Connect the provided SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin SCART connector.
- Set the AV1 OUT switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

CONNECT RECORDER TO MAINS

Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the ψ /I button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

S-VIDEO Connection



• To Connect to A TV With S-VIDEO/AUDIO IN Connectors . . .

CONNECT RECORDER TO TV

- Connect the aerial, recorder and TV as per "Basic Connection" (pg. 4).
- Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.
- Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

CONNECT RECORDER TO MAINS

Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

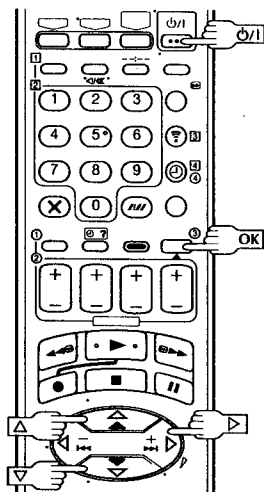
NOTES:

- You can obtain high-quality S-VHS pictures.
- If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (pg. 61)
- To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode.
- For switching the TV's mode, refer to the instruction manual of your television.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the ψ /I button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

Auto Set Up

Auto Channel Set/Auto Clock Set/Auto Guide Program Number Set



International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: --
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

ATTENTION

Once you have performed Auto Set Up, even if the recorder's memory backup has expired, all the stored stations and their Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. You only need to set the clock. (☞ pg. 70)

If you have moved to a different area, perform each setting as required.

- Tuner setting ☞ pg. 62
- Clock setting ☞ pg. 70

If a new station starts broadcasting in your area, perform tuner setting (☞ pg. 62).

When the **PS/1** button on the recorder/remote control is pressed for the first time to power on the recorder, after you plug the mains power cord into a mains outlet, the Country Set display will appear on the TV screen and the recorder's front display panel. By simply selecting your country*, the Auto Set Up function sets the tuner channels, clock** and Guide Program numbers automatically.

- * If you live in Belgium (BELGIUM) or Switzerland (SUISSE), you also need to select your language.
- ** If you live in Hungary (MAGYARORSZAG), Czech Republic (ČESKÁ REPUBLIKA), Poland (POLSKA) or other countries in Eastern Europe (OTHER EASTERN EUROPE), set the clock manually.

You can refer to the front display panel and/or the on-screen display to perform this procedure.

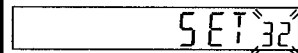
Before starting, make sure of the following:

- The TV aerial cable should be connected to the recorder.
- The recorder's mains power cord should be connected to a mains outlet.
- If you want to use the on-screen display, the TV should be set to its AV mode.

1

TURN ON THE RECORDER

Press **PS/1** on the recorder or remote control. The Country Set display appears on the front display panel and/or on the screen.



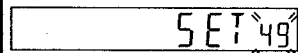
2

SELECT COUNTRY

If you are referring to the front display panel

Press **Δ** to select your international telephone country code of your country referring to the chart in the left column.

(Ex.) DEUTSCHLAND is selected



If you are referring to the on-screen display

Press **Δ** to move the highlight bar (pointer) to your country's name.

NOTE:

If you have selected BELGIUM (32) or SUISSE (41), go to step 3. If you have selected MAGYARORSZAG (36), ČESKÁ REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE), press **OK**. The Clock Set screen will appear. Set the clock manually (☞ pg. 70 - 71), then go to step 4. If you have selected any other country name (code), go to step 4.



3

SELECT LANGUAGE

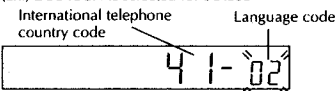
Press **OK**. The Language Set display appears on the front display panel and/or on the screen.

If you are referring to the front display panel

Press **Δ** to select your language code.

Language Code	
ENGLISH :01	NEDERLANDS :06
DEUTSCH :02	SVENSKA :07
FRANCAIS :03	NORSK :08
ITALIANO :04	SUOMI :09
CASTELLANO :05	DANSK :10

(Ex.) DEUTSCH is selected for SUISSE



If you are referring to the on-screen display

Press **Δ** to move the highlight bar (pointer) to the language of your choice.



(Ex.) DEUTSCH is selected

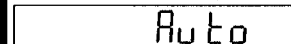
4

PERFORM AUTO SET UP

Press **OK**.

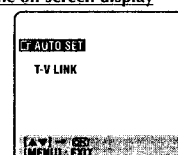
If you are referring to the front display panel

Press **Δ** to select "Auto" and press **OK** or **P**.



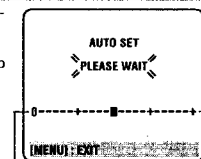
If you are referring to the on-screen display

Press **Δ** to move the highlight bar (pointer) to "AUTO SET" and press **OK** or **P**.



"Auto" blinks on the display panel; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH) 1" or "1:--:--" as illustrated on page 9.

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "■" mark on the screen moves from left to right.



Beginning

End

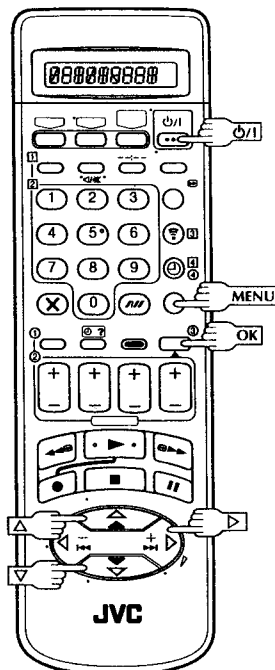
NOTES:

- Auto channel set function takes place first; it assigns automatically all receivable stations in your area.
- Auto clock set function sets the clock automatically by reading the clock setting data from a station transmitting a PDC signal while auto channel set is being performed.
- During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the Guide Program numbers assigned by the ShowView system for those stations according to the broadcast area.
- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press **PS/1** or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and try again from step 1.
- Auto clock may not function properly depending on the reception condition.

Preset Download

You can use this function only with the TV offering T-V Link, etc.*

* Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.



NOTES:

- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press ϕ/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.
- Auto clock may not function properly depending on the reception condition.
- When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.
- On this recorder, the characters available for station's name (ID) are A-Z, 0-9, -, *, + and _ (space). Some downloaded station's name may differ from those of your TV (pg. 66).

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (pg. 4), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (pg. 6). After downloading is completed, the recorder sets the clock and Guide Program number automatically. For details, refer to the instruction manual for your TV.

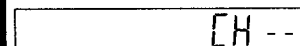
Perform steps 1 to 3 of "Auto Set Up" on page 6 and 7 before continuing.

PERFORM PRESET DOWNLOAD

Press **OK**.

If you are referring to the front display panel

Press $\Delta \nabla$ to select "CH --" and press **OK** or **D**.



If you are referring to the on-screen display

Press $\Delta \nabla$ to move the highlight bar (pointer) to "T-V LINK" and press **OK** or **D**.

AUTO SET

T-V LINK

AV MODE

PROGRAM

NUMBER

EXT

Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH) 1" or "--:--" as illustrated on page 9.

- If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, it will be interrupted.

T-V LINK

PLEASE WAIT

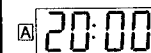
(MENU) : EXIT

GUIDE PROG SET

PLEASE WAIT

(MENU) : EXIT

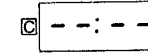
Results of Auto Set Up/Preset Download appear on the front display panel



When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed.



When auto channel set has been completed successfully but auto clock set has not, "1" (channel position) will be displayed.



When neither auto channel set nor auto clock set has been completed successfully, "--:--" will be displayed.

You can check if the Guide Program numbers have been set correctly when you perform the ShowView Timer Programming (pg. 30); if the correct channel position number is displayed in step 3, this confirms that the Guide Program number for the ShowView number you enter in step 2 has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

- Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
 - If station names (ID -- pg. 67) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 64 - 68.

B If auto channel set has succeeded but auto clock set has not:

- Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
 - If station names (ID -- pg. 67) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 64 - 68.
- Perform "Clock Set" on page 70.

C If both auto channel set and auto clock set have failed:

- Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
 - The Country Set display appears on the front display panel and/or on the screen; perform steps 2 - 4 on pages 6 - 7 again or perform the procedure on page 8.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the ShowView system, the recorder will record a TV programme of a different station. When programming the timer using the ShowView system, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (pg. 30, "ShowView® Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ϕ/I "Delete A Channel" on page 65.

INFORMATION

Language for the on-screen display

Auto Set Up also selects the language automatically for the on-screen display depending on the Country setting you have made in step 2 on page 6 (unless you have selected BELGIUM or SUISSE), as shown below.

SUOMI	→ SUOMI	DANMARK	→ DANSK	NEDERLAND	→ NEDERLANDS
PORTUGAL	→ ENGLISH	ÖSTERREICH	→ DEUTSCH	GREECE	→ ENGLISH
DEUTSCHLAND	→ DEUTSCH	ČESKÁ REPUBLIKA	→ ENGLISH	OTHER WESTERN EUROPE	→ ENGLISH
POLSKA	→ ENGLISH	ITALIA	→ ITALIANO	OTHER EASTERN EUROPE	→ ENGLISH
NORGE	→ NORSK	MAGYARORSZÁG	→ ENGLISH		
SVERIGE	→ SVENSKA	ESPAÑA	→ CASTELLANO		

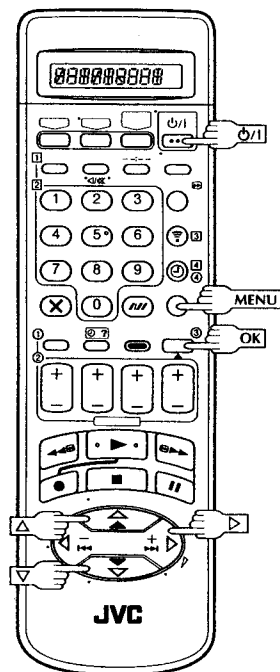
If you want to change the language setting manually, ϕ/I "Language" on page 10.

Just Clock

Your recorder is equipped with the Just Clock function which provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. If you want to take advantage of this function, simply set it to "ON". ϕ/I "Just Clock" on page 70.

Language

Turn on the TV and select the AV mode.



This recorder offers you the choice to view on-screen messages in 10 different languages. Though Auto Set Up selects the language automatically (pg. 9), you can change the language setting manually using this procedure as required.

TURN ON THE RECORDER

Press ψ/I .

ACCESS MAIN MENU

Press MENU.

ACCESS COUNTRY SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "AUTO CH SET", then press OK or $\triangleright$.



SELECT COUNTRY

Press $\Delta \nabla$ to move the highlight bar (pointer) to your country's name, then press OK or $\triangleright$.

SELECT LANGUAGE

Press $\Delta \nabla$ to move the highlight bar (pointer) to the language of your choice.

- You do not have to press OK; pressing OK enters Auto Set/T-V LINK screen.

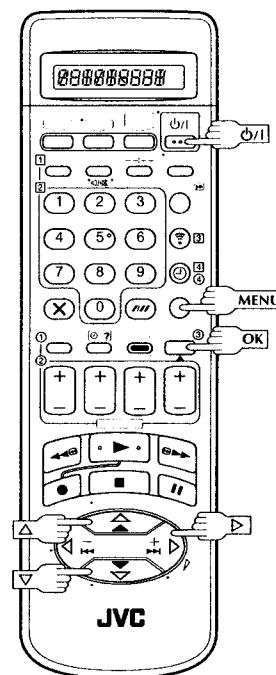


RETURN TO NORMAL SCREEN

Press MENU.

On-Screen Displays

Turn on the TV and select the AV mode.



You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF. Messages appear in the selected language (pg. 9 or 10).

TURN ON THE RECORDER

Press ψ/I .

ACCESS MAIN MENU SCREEN

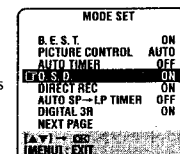
Press MENU.

ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing $\Delta \nabla$, then press OK or $\triangleright$.

ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step 5. If you don't want the displays to appear, press $\Delta \nabla$ to move the highlight bar (pointer) to "O.S.D." and press OK or $\triangleright$ to set "O.S.D." to "OFF".



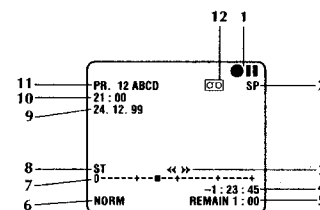
RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.
- During playback, the operation mode indicators may be disturbed depending on the type of tape being used.

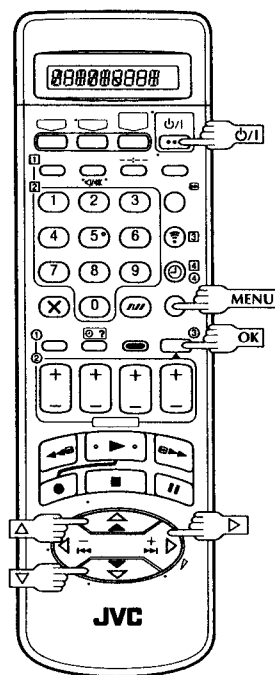
The superimposed indication on the TV screen tells you what the recorder is doing.



- Operation mode indicators
- Tape speed SP/LP/EP (EP is for NTSC playback only)
- Tape direction
- Counter display
- Tape remaining time indicator (pg. 25)
- Audio mode display (pg. 21)
- Tape position indicator (pg. 15)
- Type of Broadcast (pg. 27)
- Current day/month/year
- Clock display
- Channel position number and station name/Aux. indicator (DV, L-1, L-2, F-1, S-1 or S-2)
- Cassette loaded mark

Power Save Mode

Turn on the TV and select the AV mode.



You can reduce the power consumption while the recorder is turned off.

1 TURN ON THE RECORDER

Press ϕ/I .

2 ACCESS MAIN MENU SCREEN

Press MENU.

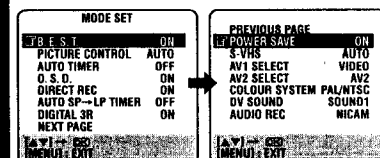
3 ACCESS MODE SET SCREEN

Press Δ/∇ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



4 SELECT POWER SAVE MODE

Press Δ/∇ to move the highlight bar (pointer) to "POWER SAVE", then press OK or $\triangleright$ to set to "ON".



5 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- During Power Save, the display panel will be turned off.
- The Just Clock function (pg. 70) does not work while the Power Save mode is engaged.
- While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.
- Power Save does not work when ...
 - ... the recorder is in the Timer mode.
 - ... the recorder's power is turned off after timer-recording (or Instant Timer Recording).
 - ... the Auto Satellite Prog Recording mode is engaged (pg. 37).
 - ... "AV2 SELECT" is set to "DECODER" or "SAT" (pg. 54).

T-V Link Functions

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (pg. 4), the following functions are available. You can use these functions only with the TV offering T-V Link, etc.*

For details, refer to the instruction manual for your TV.

* Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.

NexTVView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.

For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.

For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.

For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold RECORD on your TV remote control, or press RECORD on the recorder.

Follow the procedure below to use this function.

1 TURN ON THE RECORDER

Press ϕ/I .

2 ACCESS MAIN MENU SCREEN

Press MENU.

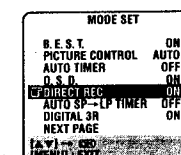
3 ACCESS MODE SET SCREEN

Press Δ/∇ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



4 SELECT DIRECT REC MODE

Press Δ/∇ to move the highlight bar (pointer) to "DIRECT REC", then press OK or $\triangleright$ to set to "ON".



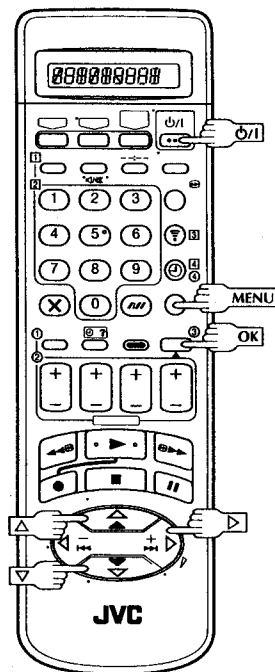
5 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- If "DIRECT REC" is set to "OFF", the RECORD button functions as described in "Basic Recording" (pg. 22).
- During the Direct Rec, "—" appears on the display panel.
- When you perform T-V LINK functions, be sure to use the fully-wired 21-pin SCART cable.

Colour System Set (S-VHS/VHS Mode Only)



NOTES:

About NTSC Playback

- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

You can play back PAL, NTSC and MESECAM tapes, or record PAL and SECAM* signals on this recorder. Follow the procedure below to select the appropriate colour system.

* SECAM signals will be recorded as MESECAM on this recorder; MESECAM is the designation for tapes with SECAM signals that have been recorded on a MESECAM-compatible PAL video cassette recorder.

1 TURN ON THE RECORDER

Press ψ/I .

2 ACCESS MAIN MENU SCREEN

Press MENU.

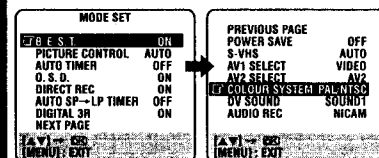
3 ACCESS MODE SET SCREEN

Press Δ/∇ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



4 SELECT COLOUR SYSTEM MODE

Press Δ/∇ to move the highlight bar (pointer) to "COLOUR SYSTEM", then press OK or $\triangleright$ to select the appropriate colour system.



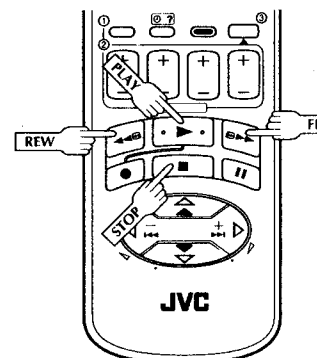
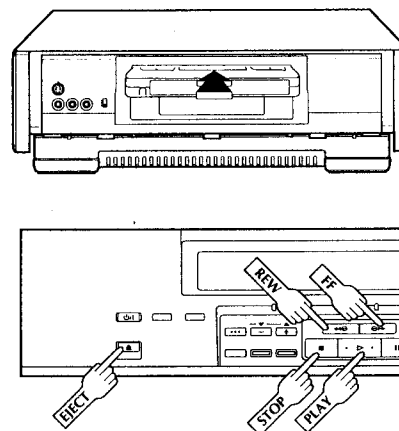
- a- PAL/NTSC: To record PAL signals, or play back a PAL or NTSC tape.
b- MESECAM: To record SECAM signals, or play back a MESECAM tape.

5 RETURN TO NORMAL SCREEN

Press MENU.

Basic Playback

Turn on the TV and select the AV mode.



The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

- This recorder can play back tapes that have been recorded in D-VHS (MTP), S-VHS and VHS formats.
- When playing back a tape, this recorder automatically identifies the recording format (D-VHS, S-VHS, or VHS).

1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the recorder. Do not apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- If the record safety tab has been removed, playback begins automatically.

2 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press REW. To go forward, press FF.

3 START PLAYBACK

Press PLAY. "BEST" appears blinking in the recorder's display panel during automatic tracking (only cassettes recorded in the S-VHS or VHS mode pg. 28).

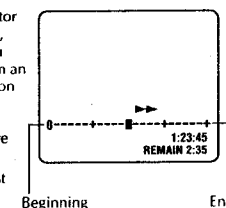
4 STOP PLAYBACK

Press STOP. Then press EJECT to remove the cassette.

Tape Position Indicator

The tape position indicator appears on screen when, from the Stop mode, you press FF, REW or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

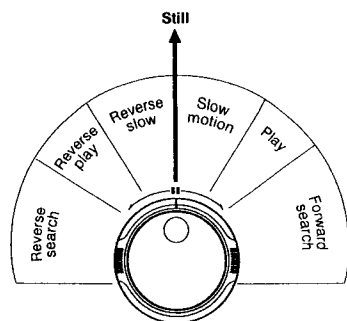
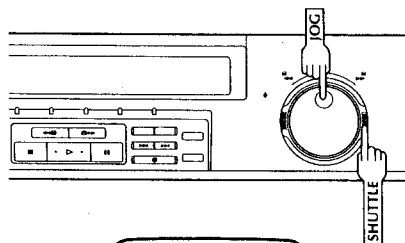
"O.S.D." (pg. 11) must be set to "ON", or the indicator will not appear.



NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.

Playback Features



NOTES:

- Refer to the **SHUTTLE** ring illustration above as you read the following procedures.
- Slow motion is not possible with cassettes recorded in D-VHS mode.
- Search in D-VHS mode is not possible with cassettes recorded in D-VHS mode on other D-VHS recorders.
- If the recorder is left in still or forward slow motion mode for over 5 minutes, it will automatically go into stop mode.
- If the recorder is left in reverse slow motion mode for over 30 seconds, it will automatically go into stop mode.

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

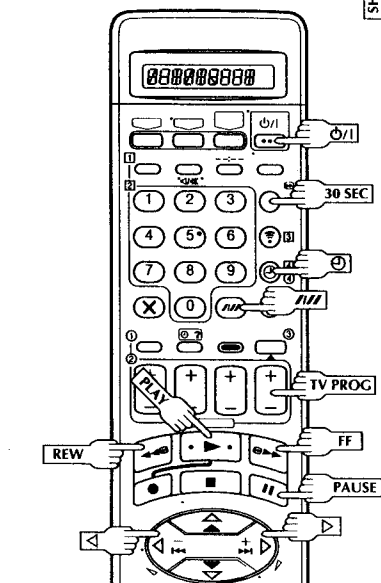
2 ACTIVATE FRAME-BY-FRAME PLAYBACK (S-VHS/VHS MODE ONLY)

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR
Press **PAUSE**.

OR
Press **◀** or **▶**.

To resume normal playback, press **PLAY**.



ATTENTION (S-VHS/VHS Mode Only)

- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

In the search, still, slow-motion or frame-by-frame playback mode,

- the picture will be distorted.
- the noise bar will appear.
- there may be a loss of colour.

Slow Motion (S-VHS/VHS Mode Only)

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration on page 16).

OR
During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR
During still picture, press and hold **◀** or **▶**. Release to return to still picture.

To resume normal playback, press **PLAY**.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR
During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTE:

For short searches, press and hold **FF** or **REW** during playback or still picture. When released, normal playback resumes.

Variable-Speed Search (S-VHS/VHS Mode Only)

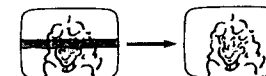
1 ACTIVATE VARIABLE-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration on page 16).

To resume normal playback, press **PLAY**.

Manual Tracking

Your video recorder is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **TV PROG** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or - to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **TV PROG** on the remote to re-engage automatic tracking.

NOTE:

When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

Skip Search

1 SKIP OVER UNWANTED SECTIONS

Press **30 SEC** 1 to 4 times during playback. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:

To return to normal playback during a Skip Search, press **PLAY**.

Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

a- For Automatic Start Of Playback After Tape Rewind ...

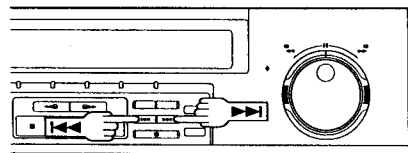
... press **REW**, then press **PLAY** within 2 seconds.

b- For Automatic Power Off After Tape Rewind ...

... press **REW**, then press **⏻** within 2 seconds.

c- For Automatic Timer Standby After Tape Rewind ...

... press **REW**, then press **⏻** (or **⏻** **TIMER**) within 2 seconds.

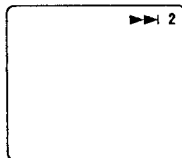


Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

NOTE:

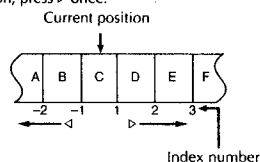
Before starting, make sure the recorder is in the Stop mode.



1 ACTIVATE INDEX SEARCH

Press ◀ or ▶ (◀◀ or ▶▶). "◀◀ 1" or "▶▶ 1" is displayed on screen and search begins in the corresponding direction.

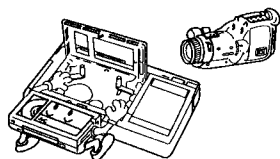
- To access index codes 2 through 9, press ◀ or ▶ repeatedly until the correct index number is displayed.
Ex.: To locate the beginning of B from the current position, press ◀ twice.
To locate the beginning of D from the current position, press ▶ once.



- When the specified index code is located, playback begins automatically.

NOTE:

Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.



Digital TBC/NR (S-VHS/VHS Mode Only)

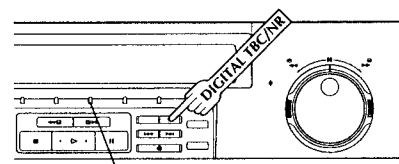
Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.

The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.

* The default setting is "ON".

We recommend that you use the Digital TBC feature when...

- ... playing back a tape recorded on a camcorder.
- ... playing back a tape repeatedly used.
- ... using this video recorder as the player for editing.



DIGITAL TBC/NR indicator

1 ACTIVATE DIGITAL TBC/NR

Press DIGITAL TBC/NR so that DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press DIGITAL TBC/NR again so that the indicator goes off.

NOTES:

- If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.
- When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.
- When playing back a MESECAM tape, Digital TBC/NR does not function even though the indicator is lit.

Digital 3R (S-VHS/VHS Mode Only)

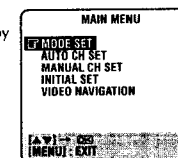
Digital 3R picture system applies edge correction to the luminance and chrominance signals to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press MENU.

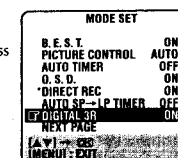
2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing Δ▽, then press OK or ▶.



3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (pointer) to "DIGITAL 3R" by pressing Δ▽, then press OK or ▶ to set to "ON".

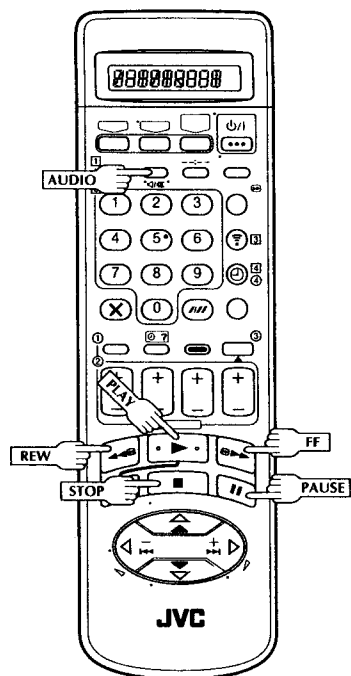


4 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- Normally it is recommendable to keep "DIGITAL 3R" set to "ON".
- Depending on the type of tape being used, picture quality may be better with "DIGITAL 3R" set to "OFF".



Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.



1 START PLAYBACK

Press **PLAY**.

2 ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▶) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3 STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTES:

- Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.
- For a cassette recorded in D-VHS mode, Repeat Playback is possible only if the cassette was recorded in STD mode.

Soundtrack Selection (S-VHS/VHS Mode)

Your video recorder is capable of recording three soundtracks (Hi-Fi L, Hi-Fi R and NORM) in the S-VHS/VHS mode and will play back the one you select.

During Playback

Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
[L] + [R]	L [L] R	For Hi-Fi stereo tapes
[L]	L [L]	For main audio of Bilingual tapes
[R]	[R]	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
[L] + [R] + NORM	L [L] R NORM	For audio-dubbed tapes

NOTES:

- "[L] + [R]" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.
- For instructions on recording stereo and bilingual programmes, refer to page 27.
- "O.S.D." must be set to "ON" or the on-screen displays will not appear (pg. 11).

Soundtrack Selection (D-VHS Mode)

Your video recorder is capable of recording two soundtracks (L and R) in the D-VHS mode and will play back the one you select.

During Playback

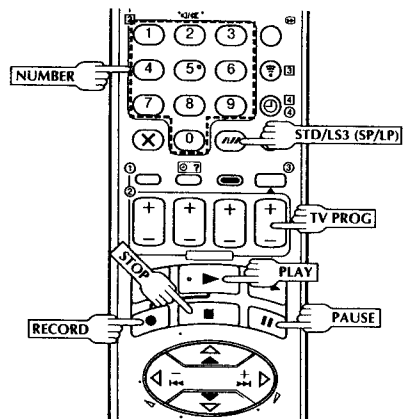
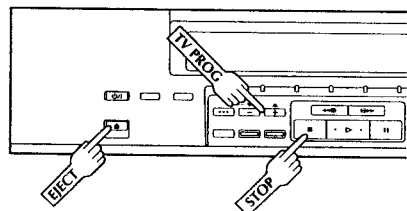
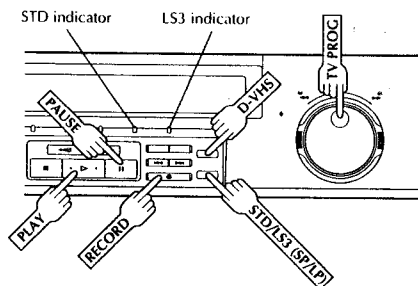
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
[L] + [R]	L [L] R	For stereo tapes
[L]	L [L]	For main audio of Bilingual tapes
[R]	[R]	For sub audio of Bilingual tapes

Basic Recording

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

Turn on the TV and select the AV mode.



D-VHS Recording

LOAD A CASSETTE

Insert a D-VHS cassette with the record safety tab intact.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- The STD (or LS3) indicator lights and the D-VHS recording mode is selected automatically.

CHOOSE A PROGRAMME

Press **TV PROG** +/- or the **NUMBER** keys to select the channel you wish to record.

- The **TV PROG** dial can also be used to select a channel.

SET TAPE SPEED

Press **STD/LS3** (**///**). Check the STD or LS3 indicator to confirm the selected tape speed.

START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (see pg. 13).

PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.

NOTE:

To record in the S-VHS or VHS mode on a D-VHS cassette, press **D-VHS** so that the STD (or LS3) indicator goes off (see pg. 26).

Compatibility Of Cassettes And Recording Mode

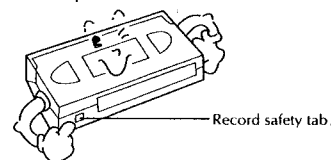
Cassette	Recording Mode		
	D-VHS	S-VHS	VHS
D-VHS	Yes	Yes	Yes
S-VHS	No	Yes	Yes
VHS	No	No	Yes

NOTES:

- The D-VHS (MTP), S-VHS and VHS mode recordings are possible with this recorder.
- To record in the D-VHS mode, use a D-VHS cassette.
- To record in the S-VHS mode, you can use a S-VHS or D-VHS cassette.
- To record in the VHS mode, you can use a VHS, S-VHS or D-VHS cassette.

Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



S-VHS/VHS Recording

LOAD A CASSETTE

Insert a cassette with the record safety tab intact.

- The counter is reset to 0:00:00 and the recorder power comes on automatically.

CHOOSE A PROGRAMME

Press **TV PROG** +/- or the **NUMBER** keys to select the channel you wish to record.

- The **TV PROG** dial can also be used to select a channel.

SET TAPE SPEED

Press **SP/LP** (**///**). Check the SP/LP indicator on the front display panel to confirm the selected tape speed.

START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette.

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (see pg. 13).

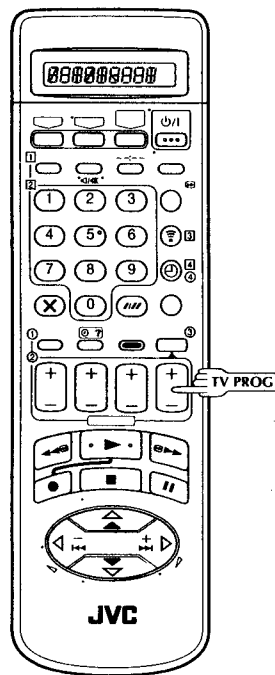
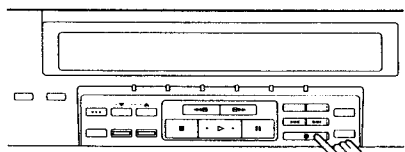
PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.

Recording Features



Record One Programme While Watching Another

- 1 SELECT CHANNEL TO WATCH**
Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.
 - The programme selected with the TV's channel controls appears on the TV screen while the one selected with the recorder's TV PROG buttons is recorded on the tape.
 - If a decoder is connected to the recorder (§ 7 pg. 60), you can select a scrambled channel as well with the TV channel controls.

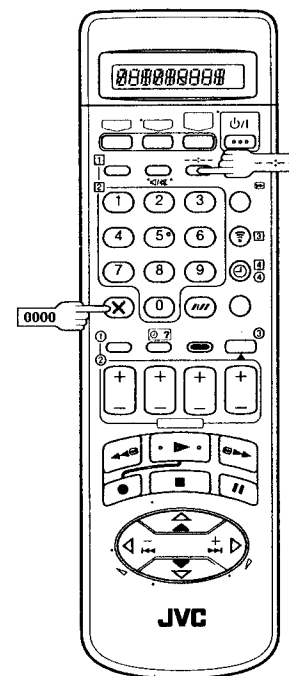
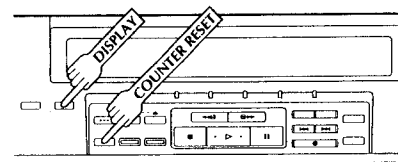
Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 8 hours (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

- 1 START RECORDING**
Press **RECORD** on the recorder.
- 2 ENGAGE ITR MODE**
Press **RECORD** again. "ITR" blinks and 0:30 appears on the front display panel.
- 3 SET RECORDING DURATION**
If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.

NOTE:

You can only perform ITR using the **RECORD** button on the recorder's front panel.



Elapsed Recording Time Indication

You can check the exact time of a recording.

- 1 SET COUNTER DISPLAY**
Press -- -- (or **DISPLAY**) until a counter reading appears on the display panel.
- 2 RESET COUNTER**
Press **0000** (or **COUNTER RESET**) before starting recording or playback.
 - The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Tape Remaining Time

- 1 DISPLAY REMAINING TIME**
Press -- -- (or **DISPLAY**) until the time remaining on the tape appears.
 - The display panel shows the tape remaining time with "TR" displayed.
 - By pressing the -- -- (or **DISPLAY**) button, you can change the display to show the counter reading, channel position*, clock time or tape remaining time.

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "-- --" may sometimes appear, or the display may blink on occasion.

S-VHS (Super VHS) And VHS

Your recorder can also record in either S-VHS or VHS.

To record in S-VHS on a D-VHS cassette:

Perform the steps 1 – 4 to set "S-VHS" to "AUTO". Then, insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light. The S-VHS recording mode will be selected.

To record in VHS on a D-VHS cassette:

Insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light. Then, perform the steps 1 – 4 to set the "S-VHS" to "OFF"; the S-VHS indicator will go off. The VHS recording mode will be selected.

To record in S-VHS on an S-VHS cassette:

Perform the steps 1 – 4 to set "S-VHS" to "AUTO". Then, insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light.

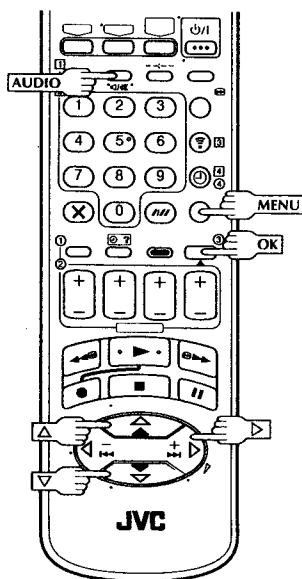
The S-VHS recording mode will be selected.

To record in VHS on an S-VHS cassette:

Insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light. Then, perform the steps 1 – 4 to set the "S-VHS" to "OFF"; the S-VHS indicator will go off. The VHS recording mode will be selected.

To record in VHS on a VHS cassette:

Insert a cassette marked "VHS". The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.



ACCESS MAIN MENU SCREEN

Press **MENU**.

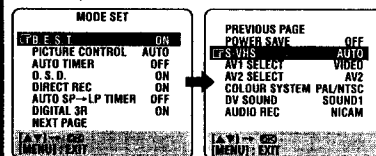
ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing Δ or ∇ , then press **OK** or $\triangleright$.



SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing Δ or ∇ , then press **OK** or $\triangleright$ to select "AUTO" or "OFF".



RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.

Receiving Stereo And Bilingual Programmes

Your recorder is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** until "ST" and "L" or "R" appear on the front display panel or "L" or "R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** until "BIL" or "ST" appears on the front display panel, or "L" or "R" appears on the screen (as required).
- S-VHS/VHS mode**
To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** until "NORM" appears on the front display panel or on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (pg. 11).

To Record Stereo And Bilingual Programmes (A2)

S-VHS/VHS mode

Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound). Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

D-VHS mode

Stereo programmes are automatically recorded in stereo on the audio track. Bilingual programmes are automatically recorded in bilingual on the audio track.

To Record NICAM Stereo And Bilingual Programmes (Only For The Users In Eastern Europe)

S-VHS/VHS mode

The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.

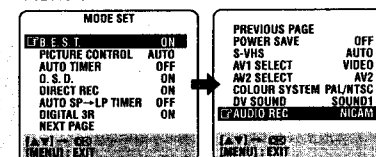
D-VHS mode (See "Audio Rec Mode Setting" below.)

NOTES:

- If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.
- Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (pg. 21).

Audio Rec Mode Setting (D-VHS Mode Only)

- Press **MENU** to access the Main Menu screen.
- Move the highlight bar (pointer) to "MODE SET" by pressing Δ or ∇ , then press **OK** or $\triangleright$.
- Move the highlight bar (pointer) to "AUDIO REC" by pressing Δ or ∇ , then press **OK** or $\triangleright$ to select "NICAM" or "MONO".

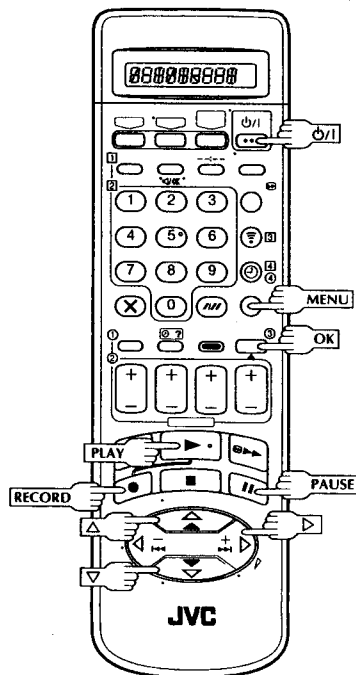
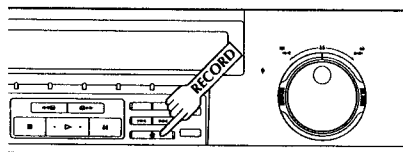


- Press **MENU** to return to the normal screen.

- When "AUDIO REC" is set to "NICAM", the NICAM audio programme will be recorded on the audio track.
- When "AUDIO REC" is set to "MONO", the Standard (monaural) audio program will be recorded on the audio track.

B.E.S.T. Picture System (S-VHS/VHS Mode Only)

Turn on the TV and select the AV mode.



The B.E.S.T. (Biconditional Equalized Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

Preparation

1 TURN ON THE RECORDER

Press ϕ/I .

2 ACCESS MAIN MENU SCREEN

Press MENU.

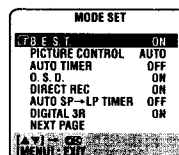
3 ACCESS MODE SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



4 SELECT B.E.S.T. MODE

Press $\Delta \nabla$ to move the highlight bar (pointer) to "B.E.S.T.", then press OK or $\triangleright$ to set to "ON" or "OFF".



5 RETURN TO NORMAL SCREEN

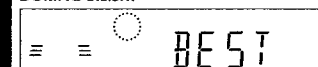
Press MENU.

Recording

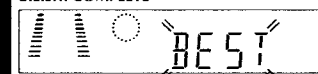
START RECORDING

Press and hold RECORD and press PLAY on the remote, or press RECORD on the recorder.

DURING B.E.S.T.



B.E.S.T. COMPLETE



The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.
- The B.E.S.T. system does not work while Auto Satellite Prog recording is in progress (pg. 37).
- In the case of timer recording, the B.E.S.T. system works before recording is initiated.
- Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.
- Pressing the recorder's RECORD button while "BEST" is displayed does not start Instant Timer Recording (pg. 24).

ATTENTION

Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after RECORD and PLAY on the remote are pressed, or RECORD on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:

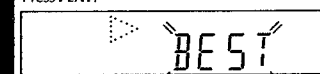
- Press and hold PAUSE and press RECORD to engage the RECORD PAUSE mode.
 - The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.
- Press PLAY to start recording.
 - If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step 4 on page 28.

Playback

The recorder assesses the quality of the tape once you initiate playback.

START PLAYBACK

Press PLAY.



- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

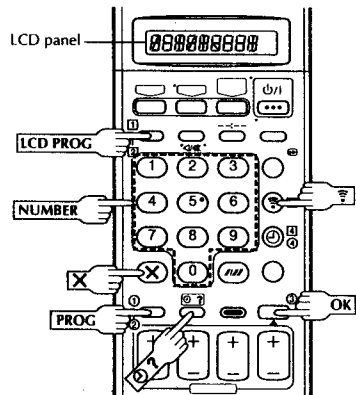
NOTES:

- When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.
- When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps 1 through 5 on page 28.
- "BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.

SHOWVIEW® Timer Programming

Before performing the ShowView Timer Programming:

- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (see pg. 22, 23).
- Turn on the TV and select the AV mode.

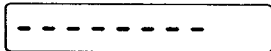


You can use the remote control with LCD panel to enter the ShowView number.

1 ACCESS SHOWVIEW DISPLAY

Press LCD PROG.

The LCD panel looks like this:

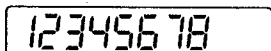


2 ENTER SHOWVIEW NUMBER

Press the NUMBER keys to enter the ShowView number of a programme you wish to record, then press ∇ .

- If you make a mistake, press X and input the correct number.

The ShowView number you enter appears on the LCD panel:

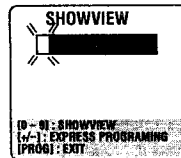


Then go to step 3 in the right column.

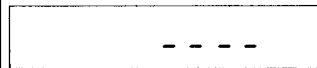
With the ShowView system, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognize.

1 ACCESS SHOWVIEW SCREEN

Press PROG.



The front display panel looks like this:

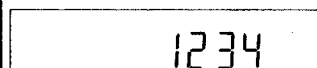


2 ENTER SHOWVIEW NUMBER

Press the NUMBER keys to enter the ShowView number of a programme you wish to record, then press OK.

- If you make a mistake, press X and input the correct number.

The ShowView number you enter appears on the front display panel:



The display panel can show only a 4-digit number.

3 ACCESS SHOWVIEW PROGRAM SCREEN

The ShowView Program screen appears (if you're just starting out, "P1" appears).

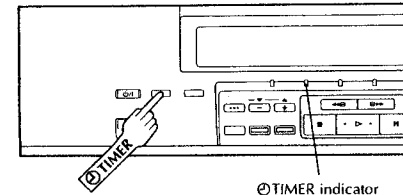
The display panel shows the programme start time. Pressing $\odot$ changes the display to the programme stop time, then the date and channel position.



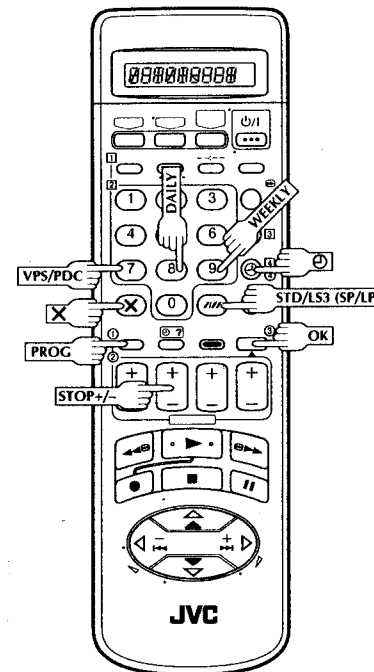
IMPORTANT

Make sure the channel position number you wish to record is displayed; if not, see "ShowView® Setup" on page 69 and set the Guide Program number for that ShowView number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid ShowView number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION - Regarding Guide Program Number Set" on page 31.



⊙TIMER indicator



Satellite Tuner Users

To timer-record a satellite broadcast using the ShowView system:

- 1 Set "AV2 SELECT" to "AV2" or "SAT" (see pg. 54).
- 2 Perform steps 1 - 7.
- 3 Set the satellite tuner to the appropriate channel before the selected programme begins.
- 4 Leave the satellite tuner's power on.

4 SET TAPE SPEED

D-VHS mode:

Press STD/LS3 (/) to set the tape speed.

S-VHS or VHS mode:

Press SP/LP (/) to set the tape speed.

5 SET VPS/PDC MODE

Press VPS/PDC to select "ON" or "OFF".

If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF. ∇ "VPS/PDC Recording" on page 33.

6 RETURN TO NORMAL SCREEN

Press PROG or OK. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps 1 - 6 for each additional programme.

7 ENGAGE RECORDER'S TIMER MODE

Press $\odot$ (or $\odot$ TIMER). The recorder turns off automatically and $\odot$ appears on the display panel. The $\odot$ TIMER indicator on the recorder also lights up.

- To disengage the timer, press $\odot$ (or $\odot$ TIMER) again.

NOTES:

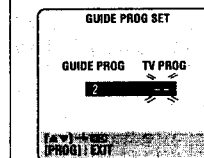
- To Change The Stop Time... press STOP +/- in step 3. You can compensate for anticipated programme schedule delays this way.
- To Timer-Record Weekly Or Daily Serials... in step 3, press WEEKLY (NUMBER key "9") for weekly serials or DAILY (NUMBER key "8") for daily serials (Monday - Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.
- You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (see pg. 34).
- It is not possible to timer-record a TV programme with a ShowView number which starts with "0".

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step 3 if the Guide Program number for the ShowView number you entered has not been set.

- Press the NUMBER keys or Δ / ∇ to input the channel position number on which your recorder receives that station, then press OK or $\triangleright$ to set the Guide Program number. The ShowView program screen appears.



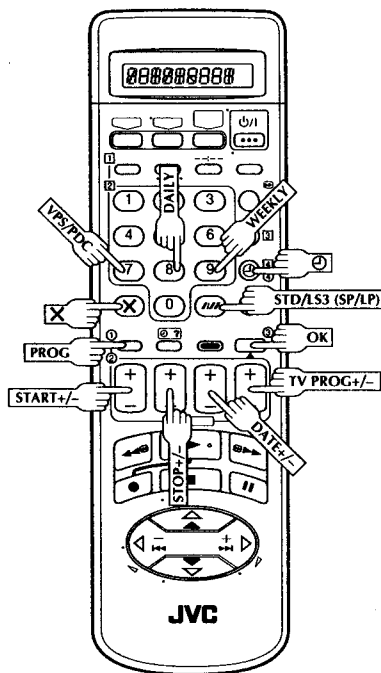
(Ex.) To timer-record a ZDF programme with the ShowView system.

* If your recorder receives ZDF on the channel position 2, press OK or $\triangleright$ after entering "2".

Express Timer Programming

Before performing Express Timer Programming:

- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (pg. 22, 23).
- Turn on the TV and select the AV mode.



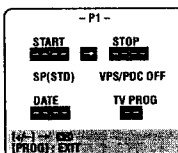
If you don't know the ShowView number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1 ACCESS SHOWVIEW SCREEN

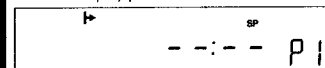
Press PROG.

2 ACCESS PROGRAMME SCREEN

Press START +/- (If you're just starting out, "P1" appears.)



The front display panel looks like this:

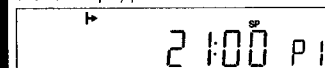


3 ENTER PROGRAMME START TIME

Press START +/- to enter the time you want recording to start.

- Press and hold START +/- to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

The front display panel looks like this:



4 ENTER PROGRAMME STOP TIME

Press STOP +/- to enter the time you want recording to stop.

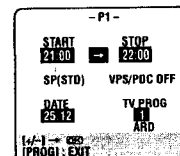
- Press and hold STOP +/- to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

5 ENTER PROGRAMME DATE

Press DATE +/- (The current date appears on screen. The date you enter appears in its place.)

6 ENTER CHANNEL POSITION

Press TV PROG +/-.



7 SET TAPE SPEED

D-VHS mode:

Press STD/LS3 (///) to set the tape speed.

S-VHS or VHS mode:

Press SP/LP (///) to set the tape speed.

8 SET VPS/PDC MODE

Press VPS/PDC to select "ON" or "OFF".

If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF. (pg. 23) "VPS/PDC Recording" in the right column.

9 RETURN TO NORMAL SCREEN

After confirming all information is correct, press PROG or OK. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps 1 - 9 for each additional programme.

10 ENGAGE RECORDER'S TIMER MODE

Press (TIMER). The recorder turns off automatically and (TIMER) appears on the display panel. The (TIMER) indicator on the recorder also lights up.

- To disengage the timer, press (TIMER) again.

To Timer-Record Weekly Or Daily Serials . . .

. . . anytime during steps 2 through 9, press WEEKLY (NUMBER key "9") for weekly serials or DAILY (NUMBER key "8") for daily serials (Monday - Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (pg. 34).

Satellite Tuner Users

To timer-record a satellite broadcast using Express Timer Programming:

- 1 Set "AV2 SELECT" to "AV2" or "SAT" (pg. 54).
- 2 Perform steps 1 - 10. Select "L-1" or "L-2" for the channel position in step 6, depending on the connection to the satellite tuner (pg. 57 - 59).
- 3 Set the satellite tuner to the appropriate channel before the selected programme begins.
- 4 Leave the satellite tuner's power on.

VPS/PDC Recording

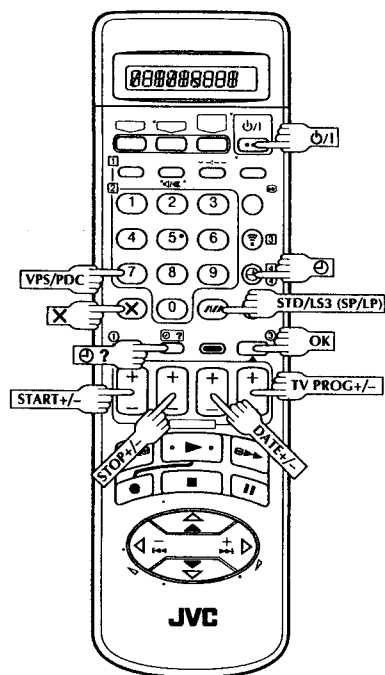
Now available from some TV stations, PDC (Programme Delivery Control) and VPS (Video Programme System) are service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

NOTES:

- When you use Express Timer Programming, set the start time (VPS or PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.
- VPS/PDC recording is also possible when a satellite tuner or a cable system is connected to AV2 IN/DECODER on your recorder.
- VPS/PDC recording is also possible via the AV1 IN/OUT connector.

How to check if the station being received transmits a VPS/PDC signal

- 1 Press -- -- until the channel position appears on the display panel.
- 2 Hold down START+ for about 5 seconds.
 - "VPS/PDC" appears blinking on the display panel.
 - If a VPS/PDC signal is detected from the station, "VPS/PDC" will stop blinking.
 - If no VPS/PDC signal is detected from the station, "VPS/PDC" will blink at a slower rate.
- 3 Press -- -- or START+ again to return to normal display.



Check, Cancel And Replace Programmes

- 1 **DISENGAGE TIMER MODE**
Press $\odot$ (or $\odot$ **TIMER**), then press ψ /I.
- 2 **ACCESS PROGRAM CHECK SCREEN/DISPLAY**
Press $\odot$ 7.

PR	START	STOP	CH	DATE
1	8:00	10:00	3	24.12
2	10:00	10:45	2	25.12
3	11:30	13:00	1	25.12
4				
5				
6				
7				
8				

IO 71: NEXT

P 1 P 8
- 3 **ACCESS PROGRAM SCREEN/DISPLAY**
Press $\odot$ 7 again to check more information. Each time you press $\odot$ 7, the next programme's information appears.

- P1 -	
START 8:00	STOP 10:00
SP(STD)	VPS/PDC OFF
DATE 24.12	TV PROG 3 WDR

IO 71: NEXT

8:00 SP P 1

• The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the channel position.

To cancel or replace a programme...

- 4 **CANCEL OR REPLACE A PROGRAMME**
Press **X** to cancel a programme. To replace a programme, press the appropriate button: **START+/-**, **STOP+/-**, **DATE+/-**, **TV PROG+/-**, **VPS/PDC**, **STD/LS3 (SP/LP)** (**///**).
- 5 **RETURN TO NORMAL SCREEN/DISPLAY**
Press $\odot$ 7 as many times as necessary. If there are still some programmes remaining, go on to step 6.
- 6 **RETURN TO TIMER MODE**
Press $\odot$ (or $\odot$ **TIMER**).

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode $\square$ pg. 12) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

Auto SP→LP Timer (S-VHS/VHS Mode Only)

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example...

Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes Approximately 60 minutes

SP mode	LP mode
Total 210 minutes	

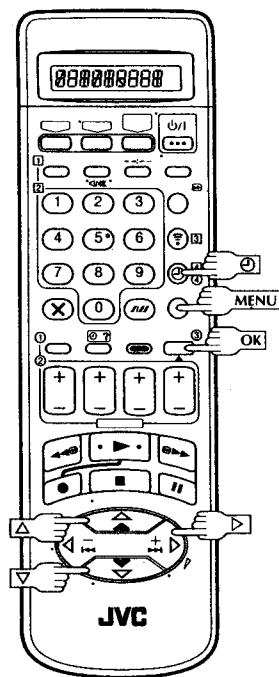
Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

- 1 **ACCESS MAIN MENU SCREEN**
Press **MENU**.
- 2 **ACCESS MODE SET SCREEN**
Press Δ / ∇ to move the highlight bar (pointer) to "MODE SET", then press **OK** or $\triangleright$.
- 3 **SELECT MODE**
Press Δ / ∇ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or $\triangleright$ to select "ON".

MODE SET	
R.E.S.T.	ON
PICTURE CONTROL	AUTO OFF
AUTO TIMER	OFF
O.S.D	ON
DIRECT REC	ON
AUTO SP→LP TIMER	ON
DIGITAL SR	ON
NEXT PAGE	
[EXIT] [MENU] [EXT]	
- 4 **RETURN TO NORMAL SCREEN**
Press **MENU**.

NOTES:

- If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.
- In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.
- There may be some noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.
- The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.
- If you perform timer recording with both VPS/PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.



Auto Timer

When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1 ACCESS MAIN MENU SCREEN

Press MENU.

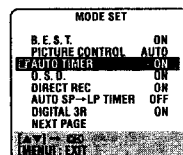
2 ACCESS MODE SET SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



3 SELECT MODE

Press Δ / ∇ to move the highlight bar (pointer) to "AUTO TIMER", then press OK or $\triangleright$ to select either "ON" or "OFF".



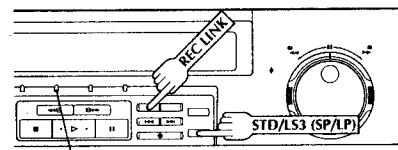
4 RETURN TO NORMAL SCREEN

Press MENU.

NOTE:

For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press $\odot$ (or $\odot$ TIMER).

Automatic Satellite Programme Recording



REC LINK indicator

ATTENTION

- Be sure not to turn on the satellite tuner before the programme is executed; otherwise, the recorder will start recording when the satellite tuner's power is turned on.
- If you have connected another appliance other than a satellite tuner to the AV2 IN/DECODER connector, be sure not to engage the Auto Satellite Prog Rec mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog recording and timer-recording cannot be done at the same time.

NOTES:

- Auto Satellite Prog recording is possible with the AV2 IN/DECODER connector only. (pg. 57, 58)
- For timer programming of the satellite tuner, refer to the instruction manual of the satellite tuner.
- Auto Satellite Prog recording is not possible if your satellite tuner does not have a timer.
- The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.
- Pressing the recorder's $\odot$ /1 button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengage the Auto Satellite Prog Rec mode.
- If there are more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set the different tape speed per each; the tape speed selected in step 2 will be applicable to all the programmes for Auto Satellite Prog recording.
- The B.E.S.T. system (pg. 28) does not work while Auto Satellite Prog recording is in progress.
- Just Clock (pg. 70) does not work when the Auto Satellite Prog Rec mode is engaged.
- Depending on the type of satellite tuner, the recorder may not record a slight portion of the beginning of the programme or may record slightly longer than the actual length of the programme.
- If you engage the Auto Satellite Prog Recording mode when the satellite tuner's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite tuner shuts off once and is turned back on again, the recorder starts recording.
- When the Auto Satellite Prog Rec mode is engaged or the recorder's power is turned off after Auto Satellite Prog recording is finished, the recorder will not enter the Timer mode even though "AUTO TIMER" is set to "ON".
- You can also record a programme from your cable system in the same way if the system has a timer.
- When you press and hold the recorder's REC LINK button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite tuner's power is off, Auto Satellite Prog Recording will not work properly with that satellite tuner.

If this is the case, perform "Express Timer Programming" (pg. 32) to timer-record a satellite programme.

* Some satellite tuners output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite tuners.

This facility allows you record automatically a satellite programme which is timer-programmed on your external satellite tuner. Connect a satellite tuner to the recorder's AV2 IN/DECODER connector (pg. 57, 58) and programme the timer on the satellite tuner; the recorder starts recording when the signals input from the satellite tuner to the AV2 IN/DECODER connector, and when there is no input signals the recorder stops recording and the power shuts off.

Before performing the following steps:

- Make sure the satellite tuner is connected to the recorder's AV2 IN/DECODER connector. (pg. 57, 58)
- Programme the timer on the satellite tuner.
- Insert a cassette with the safety tab in place.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (pg. 22, 23).

1 SELECT AV2 SELECT MODE

Set "AV2 SELECT" to "AV2" (pg. 54).

- When you select "SAT", refer to "IMPORTANT" on page 57.

2 SET TAPE SPEED

D-VHS mode:

Press STD/LS3 (///) to set the tape speed.

S-VHS or VHS mode:

Press SP/LP (///) to set the tape speed.

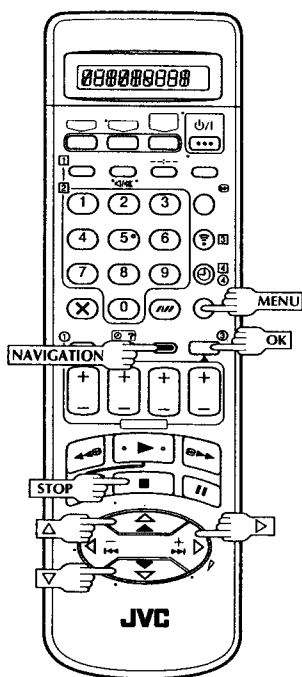
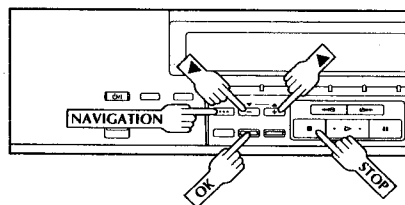
3 ENGAGE AUTO SATELLITE PROG REC MODE

Press and hold REC LINK on the recorder for about 2 seconds. The REC LINK indicator lights up and the recorder turns off automatically.

- To disengage the Auto Satellite Prog Rec mode, press REC LINK. The REC LINK indicator goes off.
- If the recorder's power is off, it is not possible to engage the Auto Satellite Prog Rec mode.

Navigation

Turn on the TV and select the AV mode.



This function is useful when you wish to quickly find out what programmes you have recorded on a tape with this recorder. This function allows you to select a programme to watch, and then automatically searches for the start of the programme.

LOAD A RECORDED CASSETTE

Insert a recorded cassette.

- The tape will run for a few seconds while the recorder searches for the tape number.

ACCESS TITLE SCREEN

Press NAVIGATION.

- After pressing NAVIGATION, it may take a few seconds to access the title screen while the recorder searches for the programme information.

CHOOSE A PROGRAMME

Press Δ (or ∇) to move the highlight bar (pointer) to the programme you want to watch.



START PLAYBACK

Press OK. Playback begins automatically after the selected programme is located.

- If you press $\triangleright$ instead of OK, the editing screen will appear. You can edit the programme title and category (see pg. 41).
- If you wish to stop the tape at the beginning of the programme, press STOP instead of OK.

To start recording on the blank portion of a tape

If you do not record programs consecutively, two tape numbers will be recorded on one tape and the recorder will not be able to search for the correct programme. To continue recording on the blank portion of a tape, follow the procedure described below:

- 1 Press Δ , and select a "BLANK" item on the program title screen.
- 2 Press STOP. The recorder automatically searches for a blank portion on the tape.
- 3 After confirming that this is the tape on which you really wish to record, begin recording.

Checking Memory

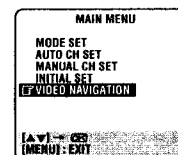
You can check the amount of recorded information in the memory.

ACCESS MAIN MENU SCREEN

Press MENU.

ACCESS VIDEO NAVIGATION SCREEN

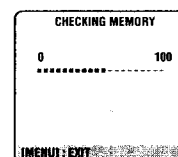
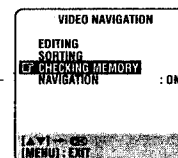
Press Δ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press OK or $\triangleright$.



CHECK MEMORY

Press Δ to move the highlight bar (pointer) to "CHECKING MEMORY", then press OK or $\triangleright$.

- The CHECKING MEMORY screen will appear.



RETURN TO NORMAL SCREEN

Press MENU.

Turn Off Navigation

If you don't want to record information on the programmes, set "NAVIGATION" to "OFF".

Perform steps 1 to 2 of "Checking Memory" in the left column before continuing.

TURN OFF NAVIGATION

Press Δ to move the highlight bar (pointer) to "NAVIGATION", then press OK or $\triangleright$ to set to "OFF".



RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

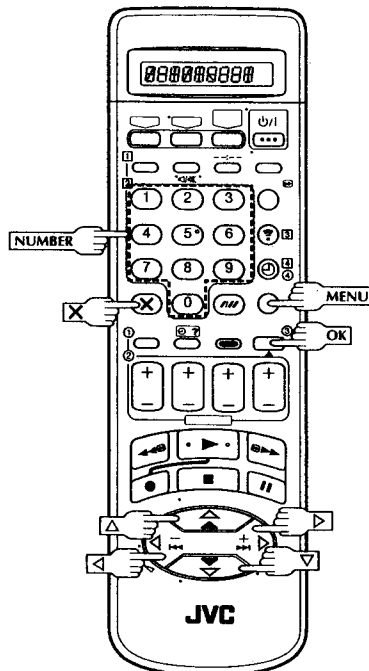
- Video Navigation is possible with the cassettes recorded with this recorder only.
- To record the date and time as the programme title in this recorder's memory, make sure the recorder's clock is set correctly before recording.
- To record the programme information in this recorder's memory, you must record each programme for over the minimum recording time: 10 min. for the D-VHS (STD) mode, 30 min. for the D-VHS (LS3) mode, 8 min. for the S-VHS/VHS (SP) mode or 15 min. for the S-VHS/VHS (LP) mode.
- Video Navigation may not work properly depending on the cassette being used.
- If the recorder finds two tape numbers in one tape while playing back or searching for the beginning of a programme, then when you remove the tape, the tape will be assigned just one number (smaller number).
- If you overwrite a programme from the beginning, the "E" symbol is displayed for the title that was overwritten.
- The programme information is stored in this recorder's memory. If the memory in this recorder should ever be damaged and the programme information lost, it is impossible to restore that information.
- After recording a tape with this recorder, write the tape number on a label and affix the label to the cassette in order to allow you to find the tape by its number.

Title Editing

When you record a TV programme with this recorder, the recorder automatically records the recording start time, date, and channel in each programme title. If the tape is recorded for the first time, the tape number and the date and time are recorded in the tape title. You can then edit the tape title and the programme titles as you like. You can also edit the category in the programme title.

In short, you can use the Video Navigation function to create your own video tape library.

Turn on the TV and select the AV mode.



Edit Tape Title

ACCESS MAIN MENU SCREEN

Press MENU.

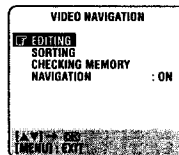
ACCESS VIDEO NAVIGATION SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press OK or $\triangleright$.



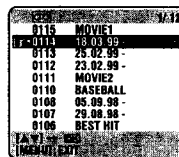
ACCESS EDITING SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "EDITING", then press OK or $\triangleright$.



SELECT TAPE NO.

Press Δ / ∇ to move the highlight bar (pointer) to the number of the tape whose title you want to edit, then press OK or $\triangleright$.



• The "*" mark indicates the tape number of the cassette that is currently in the recorder.

SELECT TAPE TITLE

Press Δ / ∇ to move the highlight bar (pointer) to the tape number, then press OK or $\triangleright$.



• The "*" mark indicates the current position on the tape.

ENTER CHARACTER

Press NUMBER keys to enter characters, then press OK. For details, refer to "Entering Character" below.

RETURN TO NORMAL SCREEN

Press MENU.

Entering Character

Press NUMBER key, then press $\triangleright$ to enter each character. Refer to the example below.

(Ex.) Enter "JVC NEWS"

- Press 5 (JKL) once to enter "J", then press $\triangleright$.
- Press 8 (TUV) three times to enter "V", then press $\triangleright$.
- Press 2 (ABC) three times to enter "C", then press $\triangleright$.
- Press 0 (—) twice to enter " " (space), then press $\triangleright$.
- Press 6 (MNO) twice to enter "N", then press $\triangleright$.
- Press 3 (DEF) twice to enter "E", then press $\triangleright$.
- Press 9 (WXYZ) once to enter "W", then press $\triangleright$.
- Press 7 (PQRS) four times to enter "S", then press $\triangleright$.

NUMBER KEY	CHARACTER
1	., / - + * () !
2	A B C 2 Å Ä Å Ä Å Ä Å
3	D E F 3 È É Ê Ë
4	G H I 4 Ì Í Î Ï
5	J K L 5
6	M N O 6 Ö Ø Õ Ö Ø Õ
7	P Q R S 7
8	T U V 8 Ù Ú Û Ü
9	W X Y Z 9
0	0 _

NOTES:

- If you make a mistake, press $\triangleleft$ to select the character, then enter the correct character.
- If you want to delete a character, press $\triangleleft$ to select the character, then press X.

Edit Programme Title And Category

Perform steps 1 to 4 of "Edit Tape Title" on page 40 before continuing.

SELECT PROGRAMME

Press Δ / ∇ to move the highlight bar (pointer) to the programme you want to edit, then press OK or $\triangleright$.



ENTER CHARACTER

Press NUMBER keys to enter characters, then press OK. For details, refer to "Entering Character" in the left column.

SELECT CATEGORY

Press Δ / ∇ to move the highlight bar (pointer) to select the category you want, then press OK or $\triangleright$.

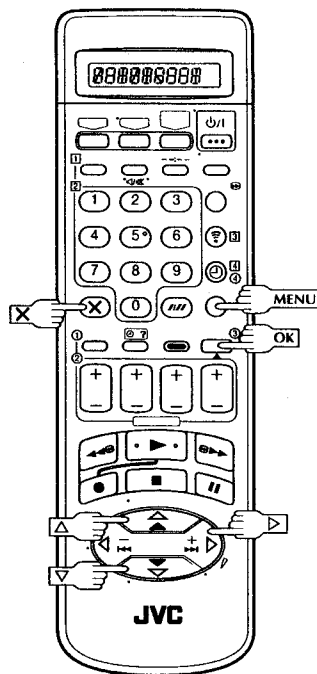


RETURN TO NORMAL SCREEN

Press MENU.

Choice Of Category

CATEGORY Δ / ∇
 Δ / ∇ MOVIE
 Δ / ∇ SPORTS
 Δ / ∇ SPECIAL
 Δ / ∇ SERIES
 Δ / ∇ SHOW
 Δ / ∇ MUSIC
 Δ / ∇ CHILDREN
 Δ / ∇ NEWS
 Δ / ∇ OTHERS $\triangleright$



Delete Tape Data

Perform steps 1 to 4 of "Edit Tape Title" on page 40 before continuing.

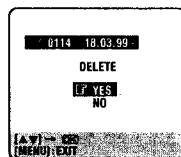
1 SELECT TAPE TITLE

Press $\Delta \nabla$ to move the highlight bar (pointer) to the tape number you want to delete, then press X.



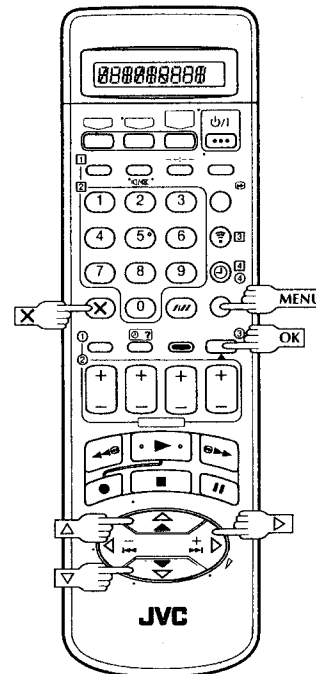
2 DELETE TAPE DATA

Press $\Delta \nabla$ to move the highlight bar (pointer) to "YES", then press OK or $\triangleright$.



3 RETURN TO NORMAL SCREEN

Press MENU.



Delete Programme Data

Perform steps 1 to 4 of "Edit Tape Title" on page 40 before continuing.

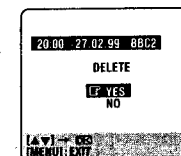
1 SELECT PROGRAMME

Press $\Delta \nabla$ to move the highlight bar (pointer) to the programme you want to delete, then press X.



2 DELETE PROGRAMME DATA

Press $\Delta \nabla$ to move the highlight bar (pointer) to "YES", then press OK or $\triangleright$.

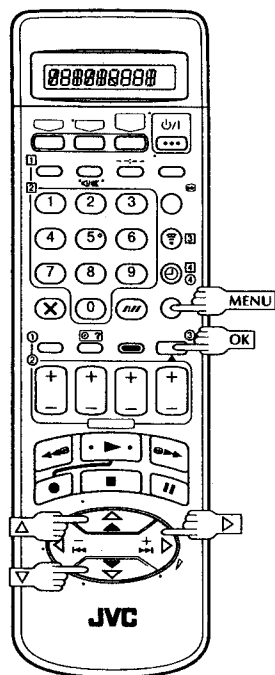


3 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- When you delete data, only the tape and/or programme information is deleted. The actual recording on the tape is not erased.
- If the recorder's memory becomes full, the recorder registers the tape in the library under the smallest tape number that is still available.



Sorting By Tape Number

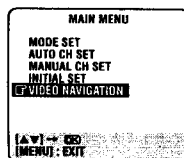
If you have recorded a lot of tapes with this recorder, this function is useful for finding out what is recorded on each tape.

1 ACCESS MAIN MENU SCREEN

Press MENU.

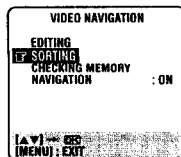
2 ACCESS VIDEO NAVIGATION SCREEN

Press Δ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press OK or $\triangleright$.



3 ACCESS SORTING SCREEN

Press Δ to move the highlight bar (pointer) to "SORTING", then press OK or $\triangleright$.



4 ACCESS TAPE NO. SCREEN

Press Δ to move the highlight bar (pointer) to "BY TAPE NO.", then press OK or $\triangleright$.



5 SELECT TAPE NO.

Press Δ to move the highlight bar (pointer) to the tape number you want to select, then press OK.



• The editing screen will appear. You can edit the tape title, or the programme title and category (pg. 40, 41).

RETURN TO NORMAL SCREEN

Press MENU.

NOTE:

If you wish to play back the programme on the tape you have found, insert the cassette and see the "Navigation" (pg. 38) for the operation.

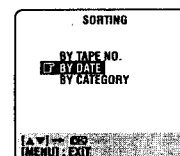
Sorting By Date

If you have recorded a lot of tapes with this recorder, this function is useful for searching for tape numbers sorted by date.

Perform steps 1 to 3 of "Sorting By Tape Number" on page 44 before continuing.

1 ACCESS DATE SCREEN

Press Δ to move the highlight bar (pointer) to "BY DATE", then press OK or $\triangleright$.



2 SELECT TAPE NO.

Press Δ to move the highlight bar (pointer) to the tape number you want to select, then press OK.



• The editing screen will appear. You can edit the tape title, or the programme title and category (pg. 40, 41).

RETURN TO NORMAL SCREEN

Press MENU.

Sorting By Category

If you have recorded a lot of tapes with this recorder, this function is useful for finding out what category of programme is recorded on the tape.

Perform steps 1 to 3 of "Sorting By Tape Number" on page 44 before continuing.

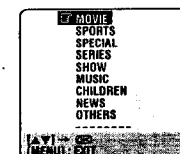
1 ACCESS CATEGORY SCREEN

Press Δ to move the highlight bar (pointer) to "BY CATEGORY", then press OK or $\triangleright$.



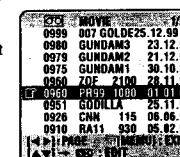
2 SELECT CATEGORY

Press Δ to move the highlight bar (pointer) to the category you want to watch, then press OK or $\triangleright$.



3 SELECT TAPE NO.

Press Δ to move the highlight bar (pointer) to the tape number you want to select, then press OK.

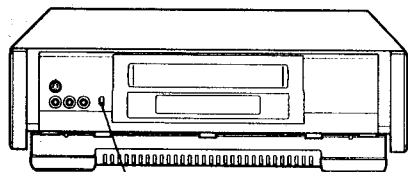


• The editing screen will appear. You can edit the tape title, or the programme title and category (pg. 40, 41).

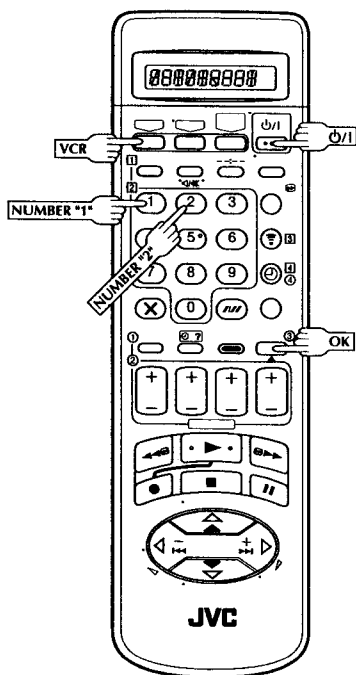
RETURN TO NORMAL SCREEN

Press MENU.

Remote Control Functions



Remote control code switch



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

SET REMOTE CONTROL CODE

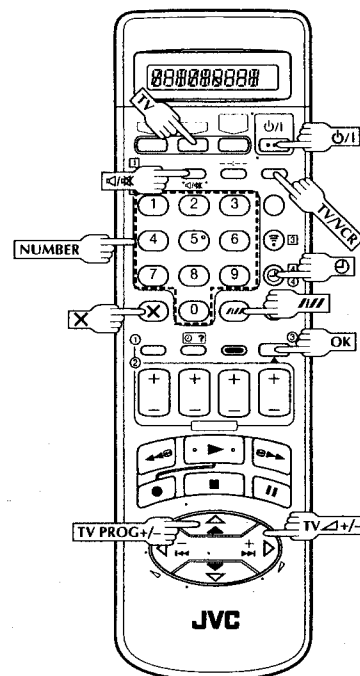
1 Slide the remote control code switch on the recorder to "B".

AND

Press and hold VCR on the remote control for over 2 seconds, press the NUMBER key "2" and then press OK.

NOTES:

- To set the recorder back to respond to A code signals, repeat the same procedure as shown above, except sliding the remote control code switch to "A" and pressing NUMBER key "1" instead of "2" in step 1.
- If you don't want to control the recorder by the remote control, slide the remote control code switch to "OFF".



TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start...

- Turn off the TV using its remote control.

SET TV BRAND CODE

1 Refer to the chart below. Press and hold TV on the recorder's remote control for over 2 seconds, enter your TV's brand code using the NUMBER keys, then press OK.

Check if the TV's power goes on as it should. If it does, try other operations (step 2).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's batteries.
- JVC or SAMSUNG has more than one code. If the TV does not function with one code, try entering another.

OPERATE TV

2 First, press TV to set the remote control to TV mode, then press the corresponding button: TV PROG +/-, TV/VCR, TV +/- (Volume), Muting, NUMBER keys.

- For some brands of TV, you must press OK after having pressed the NUMBER keys.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV, or in some instances, may have limited function capability.

Control Your TV Using Additional Buttons

Use the NUMBER keys, and the /// button, X button or @ button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the /// button corresponds to the 1-digit/2-digit entry switching button (often labelled -/-) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the X button corresponds to the 10 + button, and the @ button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

TV BRAND NAME	CODE
JVC	01, 23, 24, 25
BLAUPUNKT	19
BRANDT	26
FERGUSON	27
FINLUX	30
FUNAI	32
LG/GOLDSTAR	18
GRAETZ	28
GRUNDIG	19
HITACHI	10
ITT	28
LUXOR	28
MITSUBISHI	03
MIVAR	29
NEC	20
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14

Satellite Tuner Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite tuner set. In addition to JVC satellite tuners, other manufacturer's satellite tuners can also be controlled.

Before you start...

- Turn off the satellite tuner using its remote control.

1 SET SATELLITE TUNER BRAND CODE

Refer to the chart below. Press and hold **CABLE/SAT** on the recorder's remote control for over 2 seconds, enter your satellite tuner's brand code using the **NUMBER** keys, then press **OK**.

Check if the satellite tuner's power goes on as it should. If it does, try other operations (→ step 2).

- Once you have set the remote control to operate the satellite tuner, you don't have to repeat this step until you replace your remote control's batteries.
- Some satellite tuner brands have more than one code. If the satellite tuner does not function with one code, try entering another.

2 OPERATE SATELLITE TUNER

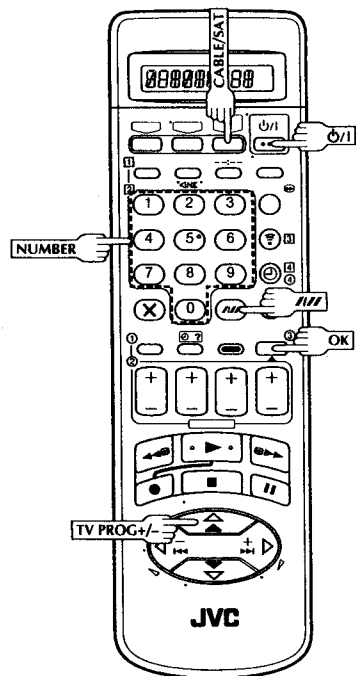
First, press **CABLE/SAT** to set the remote control to satellite tuner mode, then press the corresponding button: **0/1**, **TV PROG +/-**, **NUMBER** keys.

- For **VIDEOWAY** or some brands of satellite tuner, you must press **///** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite tuners.

IMPORTANT

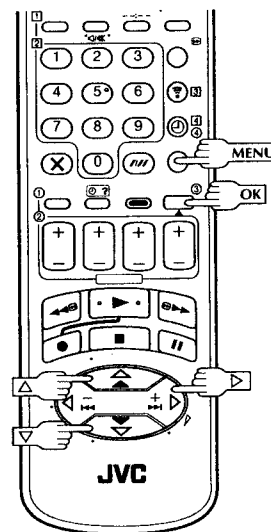
Although the provided remote control unit is compatible with JVC satellite tuners, as well as many other models, it may not work with your satellite tuner, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITT	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RFT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64



Preparation For Editing (S-VHS/VHS Mode Only)

Turn on the TV and select the AV mode.



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlighted bar (pointer) to "MODE SET" by pressing **Δ/V**, then press **OK** or **P**.

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing **Δ/V**, then press **OK** or **P** to select the desired mode.

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select **AUTO**.

EDIT: Minimizes picture degradation during editing (recording and playback).

SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.

SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

NOTES:

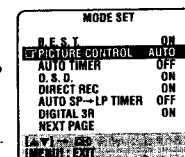
- When you select **EDIT**, **SOFT** or **SHARP**, the selected mode will not change until you select again.
- When you select **EDIT** to dub tapes, be sure to select **AUTO** after you finish dubbing the tapes.

4 RETURN TO NORMAL SCREEN

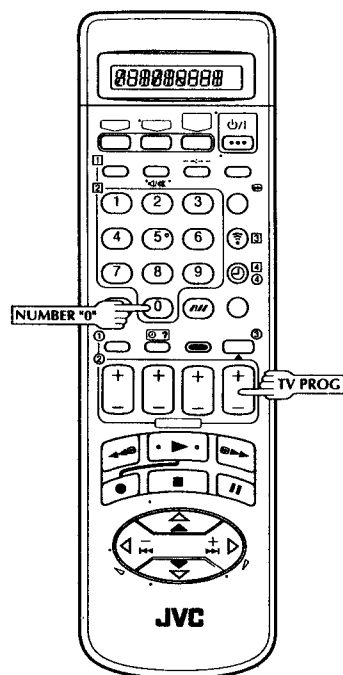
Press **MENU**.

NOTES:

- When **B.E.S.T.** is **OFF**, "PICTURE CONTROL" switches automatically from **AUTO** to **NORM**.
- Select **EDIT** when you are dubbing tapes. Refer to page 52.



Edit From A Camcorder



NOTES:

- All necessary cables can be obtained from your dealer.
- You can also use another video recorder as the player instead of a camcorder.
- When you select EDIT to dub tapes in step 4, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.
- When you are editing through the DV IN connector, the recorder will stop if the player begins playing a blank portion of tape or the signal is interrupted.

You can use a camcorder as the source player and your video recorder as the recorder. You can perform digital editing if the camcorder has a DV output connector.

MAKE CONNECTIONS

- If the camcorder has no S-VIDEO output connector...
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/VIDEO input connectors.
- If the camcorder has an S-VIDEO output connector...
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.
- If the camcorder has a DV OUT connector...
... connect the camcorder's DV OUT connector to the recorder's DV IN connector.
See "DV Sound Setting" (pg. 51) for the DV sound selection.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (pg. 22, 23).

SET RECORDER'S INPUT MODE

Press NUMBER key "0" and/or TV PROG to select "F-1" for the AUDIO/VIDEO input connectors, "S-2" for the AUDIO/S-VIDEO input connectors, or "I-1" for the DV input connectors, depending on the connectors being used.

SET EDIT MODE (S-VHS/VHS MODE ONLY)

See "Picture Control" on page 49.

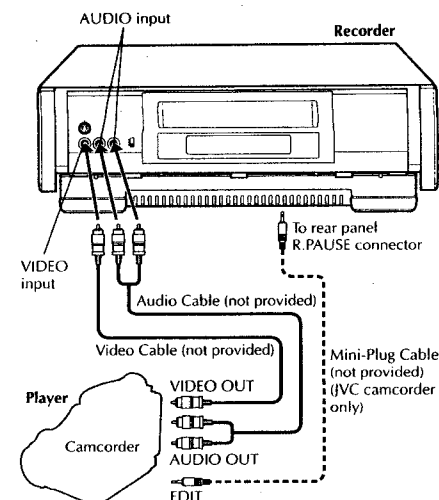
START CAMCORDER

Engage its Play mode.

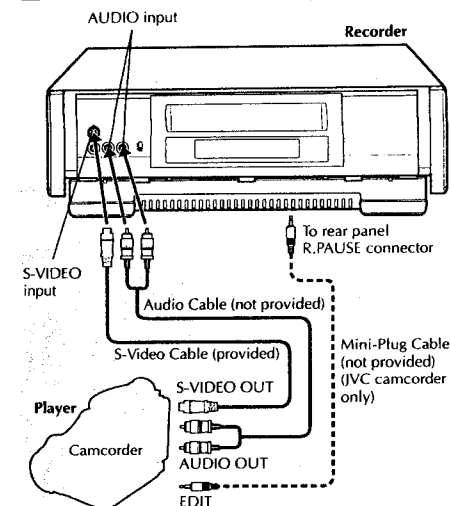
START RECORDER

Engage its Record mode.

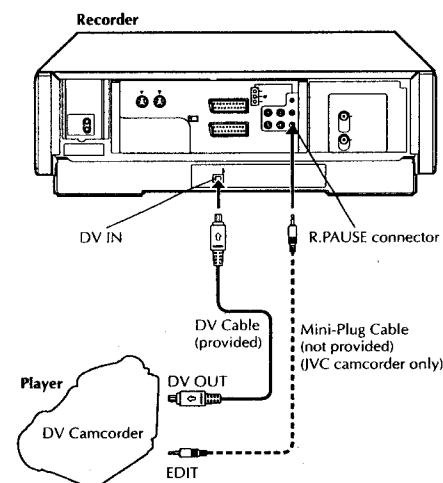
A If the camcorder has no S-VIDEO output connector...



B If the camcorder has an S-VIDEO output connector...



C If the camcorder has a DV OUT connector...



DV Sound Setting

Up to four audio signal channels can be input from a DV camcorder through the DV IN connector (i.Link). This recorder allows you to select and record two of these channels. This setting is used to specify which two channels to record.

- Press MENU to access the Main Menu screen.
- Move the highlight bar (pointer) to "MODE SET" by pressing Δ , then press OK or $\triangleright$.
- Move the highlight bar (pointer) to "DV SOUND" by pressing Δ , then press OK or $\triangleright$ to select "SOUND1", "SOUND2" or "FULL".

MODE SET			
LP B.E.S.T.	ON	PREVIOUS PAGE	OFF
PICTURE CONTROL	AUTO	S-VHS	AUTO
O.S.D	OFF	AV1 SELECT	VIDEO
DIRECT REC	ON	AV2 SELECT	AV2
AUTO SP--LP TIMER	ON	COLOUR SYSTEM	PAL/NTSC
DIGITAL SR	OFF	LP DV SOUND	SOUND1
NEXT PAGE	ON	AUDIO REC	NICAM
EXIT		EXIT	

When there are four DV audio channels (32kHz):
SOUND1: Records the two channels (L/R) of DV SOUND 1.

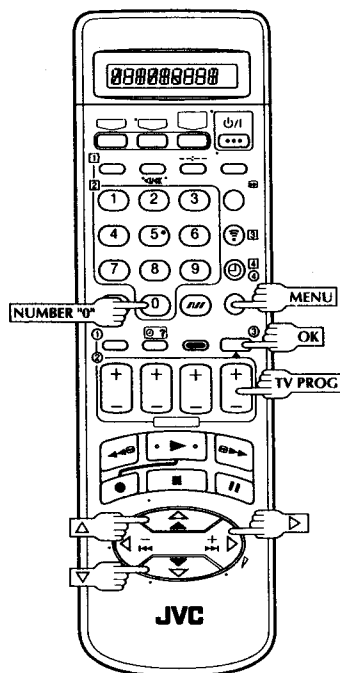
SOUND2: Records the two channels (L/R) of DV SOUND 2.

FULL: Mixes and records both DV SOUND 1 and 2.

When there are two DV audio channels (48kHz):
Because there are only two channels, those two channels are recorded regardless of the DV sound setting.

- Press MENU to return to the normal screen.

Edit To Or From Another Video Recorder



You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 53.

A When Using Your Video Recorder As The Source Player ...
... connect its AV1 IN/OUT connector to the recording deck.

B When Using Your Video Recorder As The Recording Deck ...
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

C If Another Recorder Is Compatible With The Y/C Signal ...
... connect your recorder's AV1 IN/OUT connector to another recorder.

With **C** connection ...

- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (pg. 54).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (pg. 4).

2 SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (pg. 22, 23).

3 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **TV PROG.** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, make sure "AV2 SELECT" is set to "AV2" (pg. 54).

4 SET EDIT MODE (S-VHS/VHS MODE ONLY)

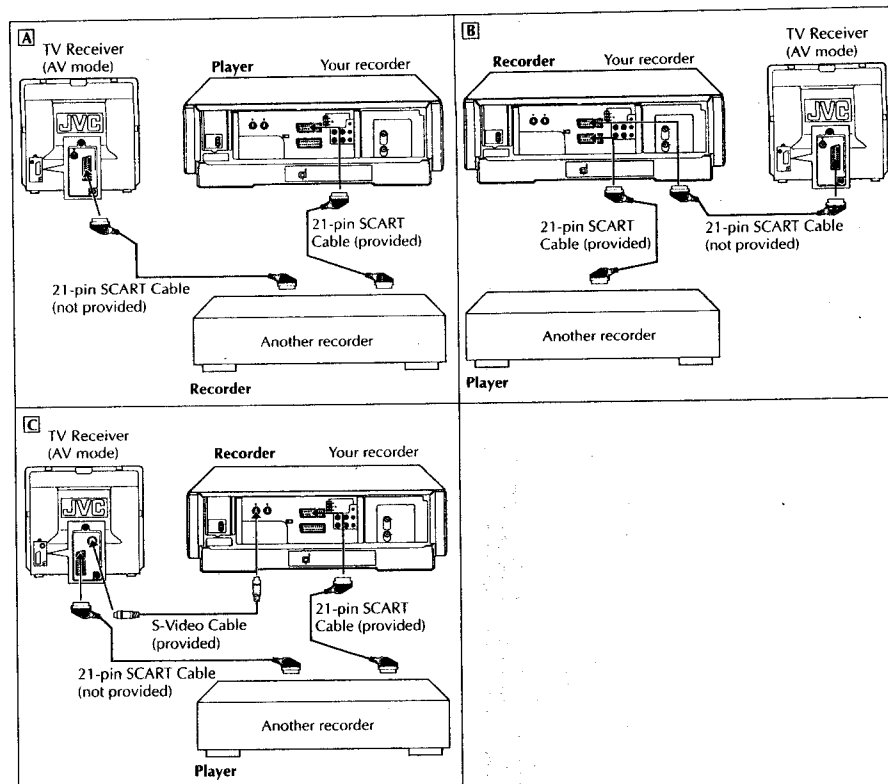
See "Picture Control" on page 49.

5 START SOURCE PLAYER

Engage its Play mode.

6 START RECORDING DECK

Engage its Record mode.



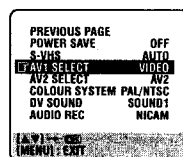
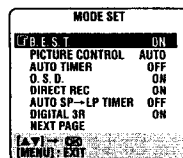
NOTES:

- All necessary cables can be obtained from your dealer.
- For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.
- When you select EDIT to dub tapes in step 4, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.
- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (pg. 11).
- If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO and AUDIO input/output connectors.
When Using Your Video Recorder As The Source Player ...
... connect its rear panel S-VIDEO and AUDIO output connectors to the recording deck's S-Video and Audio input connectors.
When Using Your Video Recorder As The Recording Deck ...
... connect its rear panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors.
Then, set the recorder's input mode to "S-1".

AV1 SELECT Setting

Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

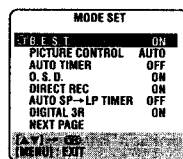
- 1 Press **MENU** to access the Main Menu screen.
 - 2 Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press **OK** or $\triangleright$.
 - 3 Press $\Delta \nabla$ to move the highlight bar (pointer) to "AV1 SELECT".
 - 4 Press **OK** or $\triangleright$ to select "VIDEO" or "S-VIDEO".
 - a-VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
 - b-S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
 - 5 Press **MENU** to return to normal screen.
- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".



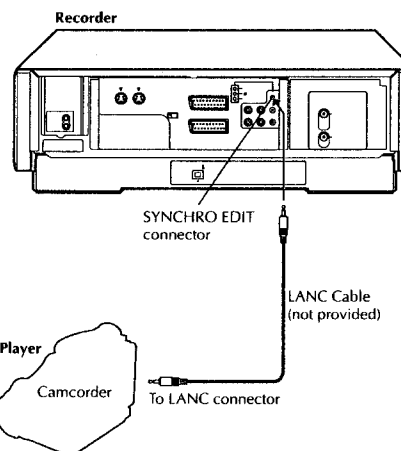
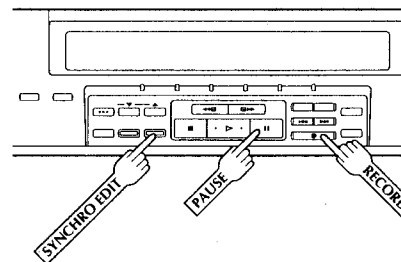
AV2 SELECT Setting

Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

- 1 Press **MENU** to access the Main Menu screen.
 - 2 Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press **OK** or $\triangleright$.
 - 3 Press $\Delta \nabla$ to move the highlight bar (pointer) to "AV2 SELECT".
 - 4 Press **OK** or $\triangleright$ to select "AV2", "DECODER" or "SAT".
 - a-AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
 - b-DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
 - c-SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (pg. 57)
 - 5 Press **MENU** to return to normal screen.
- If you have a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to "DECODER" after editing.
- If you're not connecting a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a decoder, be sure to set "AV2 SELECT" back to "DECODER".
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".



Synchro Editing (S-VHS/VHS Mode Only)



The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder with LANC connector and your video recorder.

MAKE CONNECTIONS

Connect your recorder to camcorder (pg. 50), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

SET RECORDING MODE

Set the appropriate recording mode (S-VHS or VHS) (pg. 23).

SET RECORDER'S INPUT MODE

Set the appropriate input mode, depending on the connectors being used in step 1.

SET EDIT MODE

See "Picture Control" on page 49.

LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

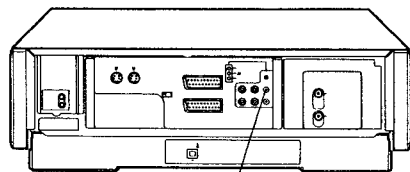
PAUSE SYNCHRO EDITING

Press **SYNCHRO EDIT** again.

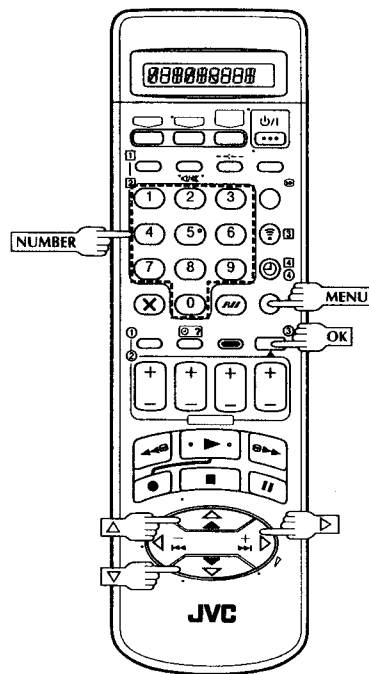
• Repeat steps 5 – 7 as necessary.

NOTES:

- The Synchro Editing function is impossible with the connection using DV connector.
- The Synchro Editing function may not work with the initial part of a camcorder tape.
- The Synchro Editing function cannot be used when using the J-LIP function. (Pressing **SYNCHRO EDIT** cancels the J-LIP function.)
- The Synchro Editing function may not work properly with some type of camcorder.
- When you select **EDIT** to dub tapes in step 4, be sure to select **AUTO** (or **NORM** when B.E.S.T. is set to **OFF**) after you finish dubbing the tapes.



J terminal



J Terminal (JLIP (Joint Level Interface Protocol) Connector)

The J Terminal is used to connect the recorder to a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations.

Example:

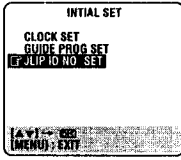
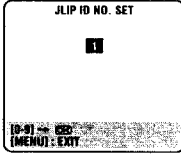
With the optional JLIP VIDEO CAPTURE BOX GV-CB3E:

- Allows you to capture still images from the recorder into a personal computer.

For further details consult your nearest JVC dealer.

JLIP ID Number

Your recorder has its own JLIP ID number. This ID number must be unique when your recorder is connected to another device via its J terminal. The ID Number is preset to "1" at the factory. You can change this number to any number between "1" and "99". If it is necessary to change the JLIP ID number perform the following steps.

- 1 ACCESS MAIN MENU SCREEN**
Press MENU.
- 2 ACCESS INITIAL SET SCREEN**
Press Δ to move the highlight bar (pointer) to "INITIAL SET", then press OK or $\triangleright$.
- 3 ACCESS JLIP ID NO. SET SCREEN**
Press Δ and move the highlight bar (pointer) to "JLIP ID NO. SET", then press OK or $\triangleright$.

- 4 SET JLIP ID NUMBER**
Press NUMBER keys to enter the desired ID number.

- 5 RETURN TO NORMAL SCREEN**
Press OK.

Connection To A Satellite Tuner

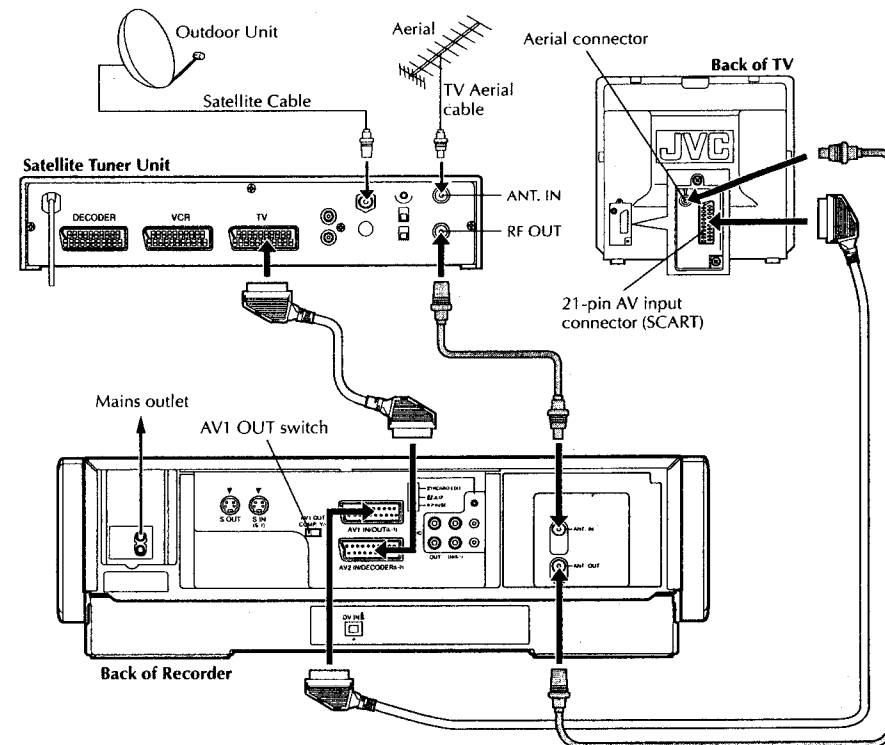
Simple Connections

This is an example of simple connection if you don't have a decoder.

Connect the satellite tuner to the video recorder's AV2 IN/DECODER connector, then connect the recorder's AV1 IN/OUT connector to the TV's 21-pin SCART connector.

NOTES:

- Set "AV2 SELECT" to "AV2" or "SAT". (cf pg. 54)
- You can use Automatic Satellite Program Recording function (cf pg. 37) with this connection.
- To record a programme via the satellite tuner, select L-2 mode by pressing NUMBER keys and/or TV PROG so that "L-2" appears on the display panel.
- If both the satellite tuner and the TV have S-VIDEO connectors, you can enjoy high-quality S-VHS pictures. Connect your recorder and the TV via S-VIDEO connection (cf pg. 5), then connect the satellite tuner's S-VIDEO and AUDIO output connectors to the recorder's S IN and AUDIO IN connectors on the rear panel. Select S-1 mode by pressing NUMBER keys and/or TV PROG, so that "S-1" appears on the display panel.
- For details, refer to the instruction manual for the satellite tuner.



IMPORTANT

When you set "AV2 SELECT" to "SAT" (cf pg. 54), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press TV/VCR on the remote control to turn off the VCR indicator on the display panel.

- In this case, be sure to set the AV1 OUT switch on the rear panel to COMP.

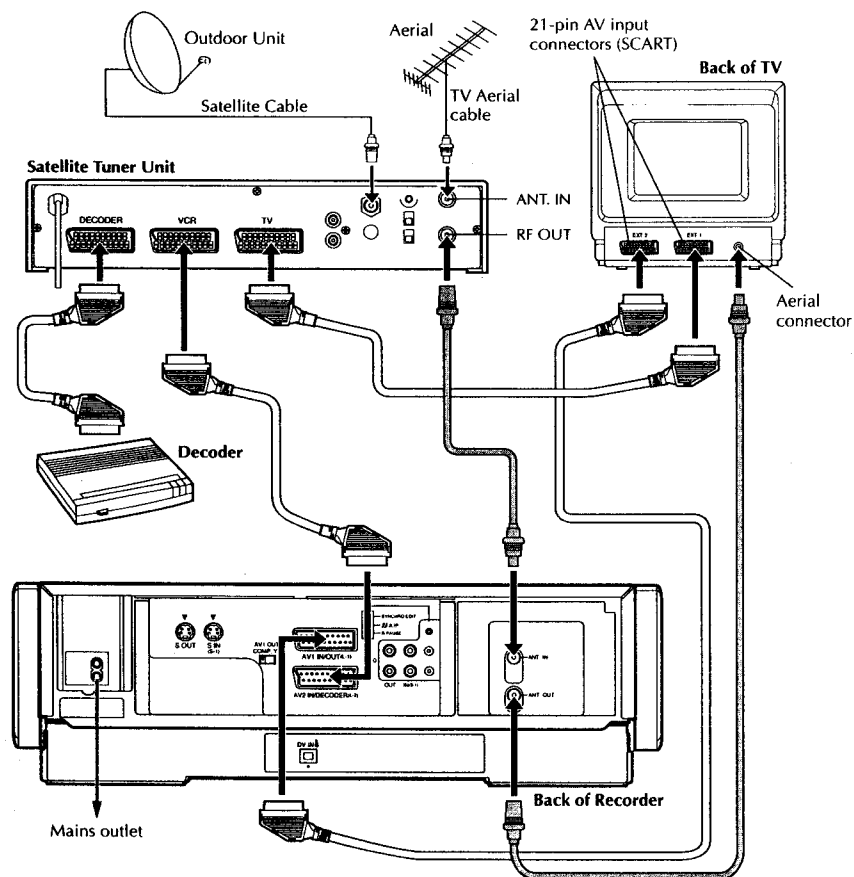
Perfect Connections

This is an example of recommended connection if you have both satellite tuner and decoder.

Connect the decoder to the satellite tuner's connector, AV1 IN/OUT connector to TV's connector, and AV2 IN/DECODER connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- Set "AV2 SELECT" to "AV2". (pg. 54)
- You can use Automatic Satellite Program Recording function (pg. 37) with this connection.
- To record a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-2" appears on the display panel.
- To receive a scrambled broadcast, descramble the signal with the satellite tuner.
- For details, refer to the instruction manual for the satellite tuner and decoder.



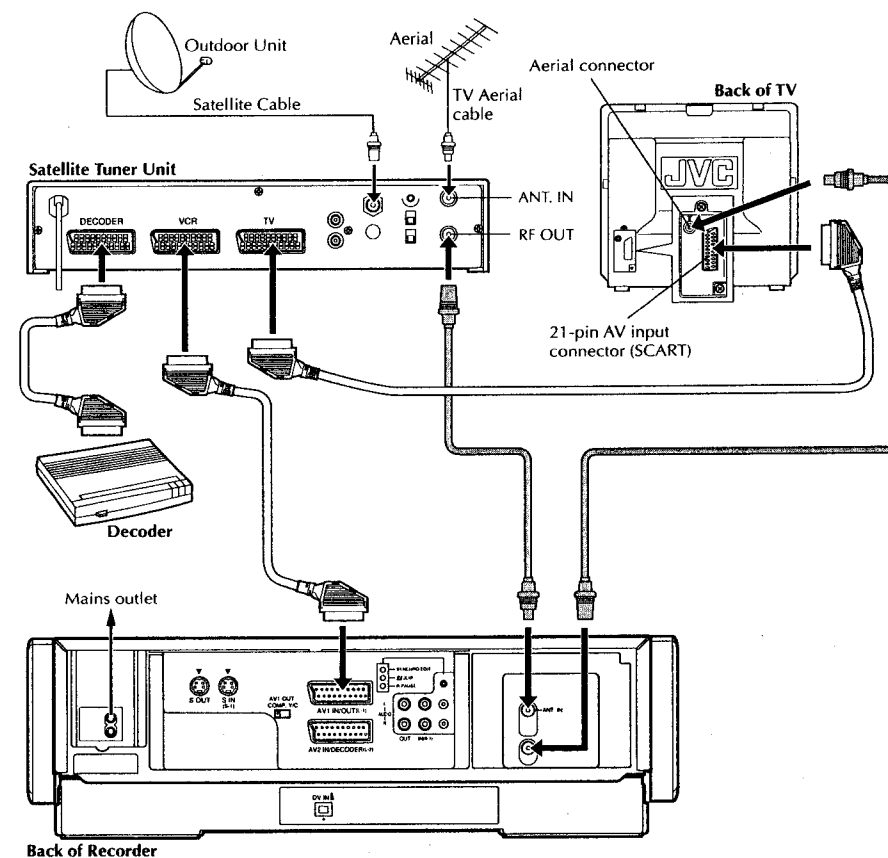
Basic Connections

This is an example of basic connection if you have both satellite tuner and decoder.

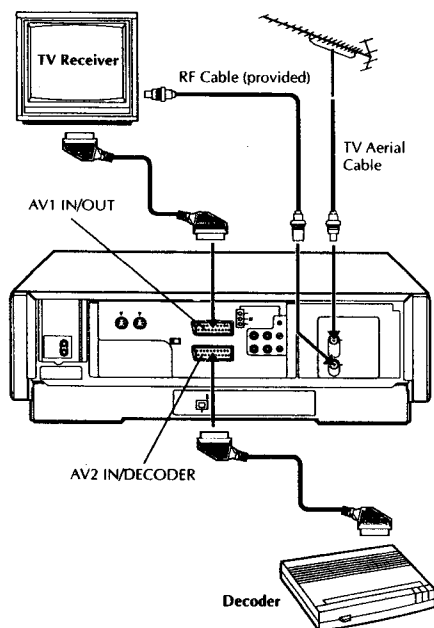
Connect the decoder to the satellite tuner's connector and AV1 IN/OUT connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- To record a satellite programme which delivers the Y/C signal, set "AV2 SELECT" to "AV2" and "AV1 SELECT" to "S-VIDEO". You can obtain high-quality S-VHS picture.
- If you connect your recorder's S OUT and AUDIO OUT connectors to the TV, you can enjoy high-quality S-VHS pictures.
- Automatic Satellite Program Recording function is not possible with this connection.
- To record a programme via the satellite tuner, select L-1 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-1" appears on the display panel.
- To receive a scrambled broadcast, descramble the signal with the satellite tuner.
- For details, refer to the instruction manual for the satellite tuner and decoder.



Connecting/ Using A Decoder



The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

SELECT INPUT MODE

Set "AV2 SELECT" to "DECODER". (pg. 54)

CONNECT DECODER

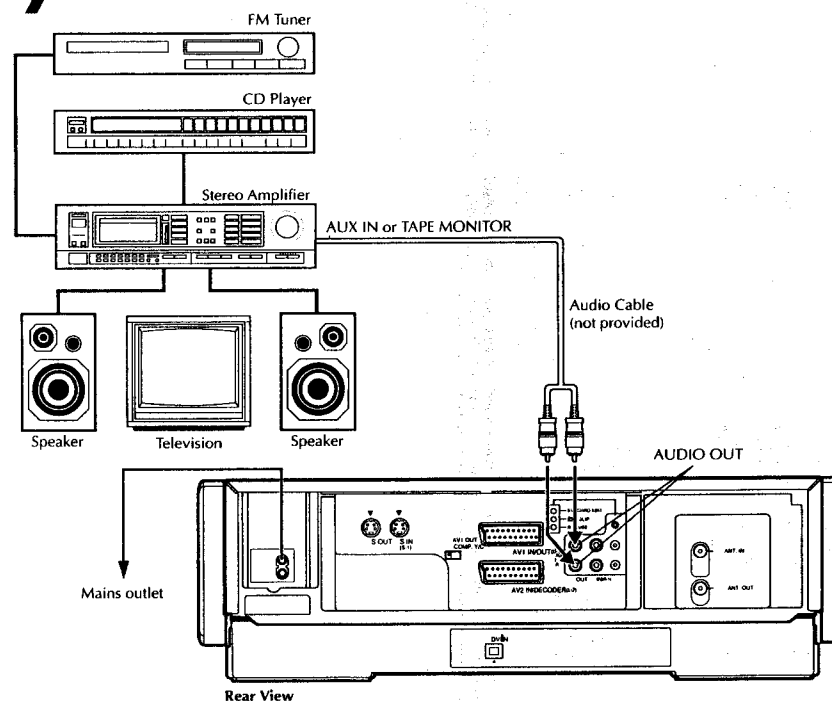
Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.

SET TUNER

Perform the procedure as described in "When Receiving A Scrambled Broadcast" on page 65.

Connecting/ Using A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.



MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

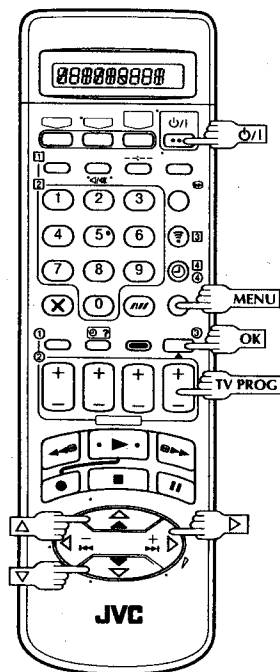
- When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.
- If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.
- When listening to sound through the connected stereo system, turn the TV's volume down completely.

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Tuner Set

Turn on the TV and select the AV mode.



IMPORTANT

Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function or by Preset Download (pg. 6, 8).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the TV PROG buttons without going through any vacant channel.

Auto Channel Set

TURN ON THE RECORDER

Press ϕ/I .

ACCESS MAIN MENU SCREEN

Press MENU.

ACCESS AUTO CH SET SCREEN

Press Δ/∇ to move the highlight bar (pointer) to "AUTO CH SET", then press OK or $\triangleright$.

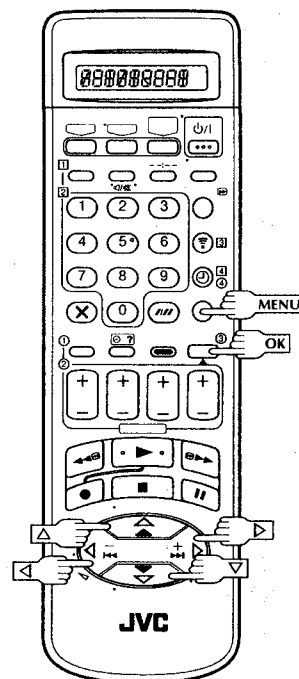


SELECT COUNTRY

Press Δ/∇ to move the highlight bar (pointer) to your country's name, then press OK or $\triangleright$.

SELECT LANGUAGE

Press Δ/∇ to move the highlight bar (pointer) to the language of your choice.



IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using ShowView, the recorder will record a TV programme of a different station. When programming the timer using ShowView, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (pg. 30, "ShowView" Timer Programming).
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture $\triangleright$ "Delete A Channel" on page 65.

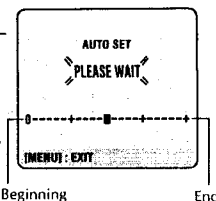
NOTES:

- Fine tuning is performed automatically during Auto Channel Set. If you want to perform it manually, refer to page 68.
- If you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step 7. When this happens, make sure of the aerial connection and press OK; Auto Channel Set will take place again.

PERFORM AUTO CHANNEL SET

Press OK twice.

- You can set up the recorder's tuner also by Preset Download (pg. 8).
- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations.



As Auto Channel Set progresses, the "■" mark on the screen moves from left to right. Wait until the screen as shown in step 7 appears.

VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, the Confirmation screen looking like the one to the right appears. The stations your recorder located appear on a Confirmation screen — channel positions (PR), channels (CH) and station names (ID — pg. 67). The blueback screen and the programme currently being broadcast by the blinking station appear alternately for 8 seconds each. To view the next page, use the Δ/∇ button on the remote control.

PR	CH	ID	PR	CH	ID
01	25	ARO	08	C26	E SP
02	C08	SKYT	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12		
06	C32	BBC2	13		
07	C33	3SAT	14		

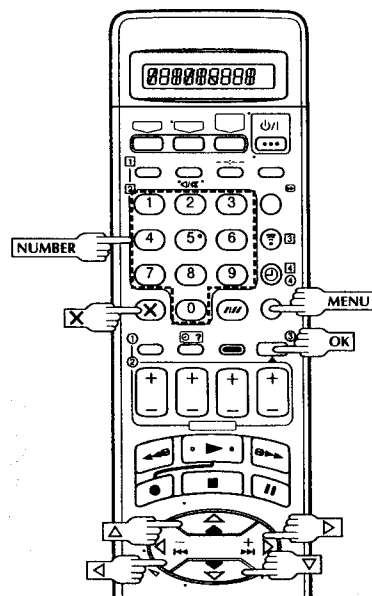
C: Cable

- The stations located in the selected country appear at the top of the list.
- The Guide Program numbers will also be set automatically during Auto Channel Set.

RETURN TO NORMAL SCREEN

Press MENU.

- Using the Confirmation screen, you can skip or add channel positions, enter station names and perform other operations. Refer to pages 64 – 68 for the procedures.
- Depending on reception conditions, the stations may not be stored in order, and the station names may not be stored correctly.
- For information on scrambled broadcasts, refer to page 65.



Storing Channels Manually

Store channels that were not stored during Auto Set Up (pg. 6), Preset Download (pg. 8) or Auto Channel Set (pg. 62).

1 ACCESS MAIN MENU

Press MENU.

2 ACCESS CONFIRMATION SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MANUAL CH SET", then press OK or $\triangleright$. The Confirmation screen appears.

3 SELECT POSITION

Press $\Delta \nabla \triangleleft \triangleright$ until an open position in which you want to store a channel begins blinking, then press OK. The Manual Channel Set screen appears.

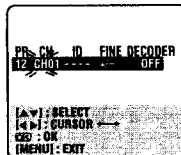
(Ex.) To store in position 12.

PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	C08	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C05	RAI1	11	C23	OSF
05	C31	BBC1	12		
06	C32	BBC2	13		
07	C33	SSAT	14		
[AV2] SELECT					
[4] 12: POSITION					
[C23] : CH					
[MENU] : EXIT					

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4 SELECT BAND

Press $\Delta \nabla$ to change the band between CH (regular) and CC (cable), then press $\triangleright$.



The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5 INPUT CHANNEL

Press the NUMBER keys to input the channel number you want to store.

- Input "0" before any single number entries.
- To input the registered station name (ID - pg. 67), press $\triangleright$ until "----" (ID setting) begins blinking, then press $\Delta \nabla$.
- For fine tuning adjustment, press $\triangleright$ until "+/-" begins blinking, then press $\Delta \nabla$. While tuning, "+" or "-" appears.
- When storing a channel that sends scrambled broadcasts, press $\triangleright$ until "OFF" (Decoder setting) blinks, then press $\Delta \nabla$ to set "DECODER" to "ON" ("OFF" is the default setting).
- When "AV2 SELECT" is set to "AV2" or "SAT", the "DECODER" setting cannot be changed (pg. 54).

6 ENTER NEW CHANNEL INFORMATION

Press OK and the Confirmation screen appears.

- Repeat steps 3 through 6 as necessary.

7 CLOSE CONFIRMATION SCREEN

Press MENU.

- To change positions, see "Change Station Channel Position" (pg. 65).
- If you wish to set station names other than the ones registered in your recorder, see "Set Stations (B)" on page 66.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with ShowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. See "ATTENTION - Regarding Guide Program Number Set" on pg. 31. Or perform "Guide Program Number Set" (pg. 69).

Delete A Channel

Perform steps 1 and 2 of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press $\Delta \nabla \triangleleft \triangleright$ until the item you want to delete begins blinking.

2 DELETE CHANNEL

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps 1 and 2 as necessary.

3 CLOSE CONFIRMATION SCREEN

Press MENU.

Change Station Channel Position

Perform steps 1 and 2 of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press $\Delta \nabla \triangleleft \triangleright$ until the item you want to move begins blinking. Then press OK and the station name (ID) and its channel (CH) number begin blinking.

2 SELECT NEW POSITION

Press $\Delta \nabla \triangleleft \triangleright$ to move the station to the new channel position, then press OK.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.

PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	C08	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C05	RAI1	11	C23	OSF
05	C31	BBC1	12	C25	ESPN
06	C32	BBC2	13		
07	C33	SSAT	14		
[AV2] SELECT					
[4] 12: POSITION					
[C23] : CH					
[MENU] : EXIT					

- Repeat steps 1 and 2 as necessary.

3 CLOSE CONFIRMATION SCREEN

Press MENU.

When Receiving A Scrambled Broadcast

SELECT DECODER MODE

Set "AV2 SELECT" to "DECODER" (pg. 54).

1 ACCESS CONFIRMATION SCREEN

Perform steps 1 and 2 of "Storing Channels Manually" on page 64.

2 SELECT POSITION

Press $\Delta \nabla \triangleleft \triangleright$ to select the channel position broadcasting scrambled programmes, then press OK twice.

3 CHANGE DECODER SETTING

Press $\triangleright$ until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing $\Delta \nabla$.

4 RETURN TO CONFIRMATION SCREEN

Press OK.

- Repeat steps 3 through 5 as necessary.

5 CLOSE CONFIRMATION SCREEN

Press MENU.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
 - Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
 - Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.
 - In Examples 2 and 3, if the channel is moved to position 10 before OK is pressed, the Guide Program numbers above position 10 are reset.
- If an attempt is made at timer programming with ShowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. See "ATTENTION - Regarding Guide Program Number Set" on pg. 31. Or perform "Guide Program Number Set" (pg. 69).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press Δ ∇ $\triangleleft$ $\triangleright$ until the item you want begins blinking.

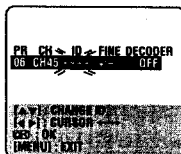
2 ACCESS MANUAL CHANNEL SET SCREEN

Press OK twice.

3 SELECT NEW STATION

Press $\triangleright$ until the station name (ID) begins blinking, then press Δ ∇ until the new station's name (ID) you want to store begins blinking.

Registered station names (see pg. 67) appear as you press Δ ∇ .



4 SWITCH STATIONS

Press OK.

- The Confirmation screen appears.
- Repeat steps 1 through 4 as necessary.

5 CLOSE CONFIRMATION SCREEN

Press MENU.

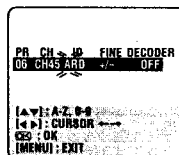
Set Stations (B)

Set station names other than the ones registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 64 to access the Confirmation screen and then perform step 1 and 2 of "Set Stations (A)" on the left before continuing.

1 SELECT STATION NAME CHARACTER

Press $\triangleright$ until the first letter of the station name begins blinking.



2 ENTER NEW CHARACTER

Press Δ ∇ to cycle through the characters (A-Z, 0-9, -, *, +, — (space)) and stop when the desired character is indicated, then press $\triangleright$ to enter. Enter the remaining characters the same way (maximum of 4). After entering all characters, press OK.

- The Confirmation screen appears.
- If you make a mistake, press $\triangleleft$ until the incorrect character begins blinking. Then enter the correct character by pressing Δ ∇ .

3 CLOSE CONFIRMATION SCREEN

Press MENU.

NOTE:

The characters available for the station name (ID) are A-Z, 0-9, -, *, +, — (space) (maximum of 4).

TV Station And ID List

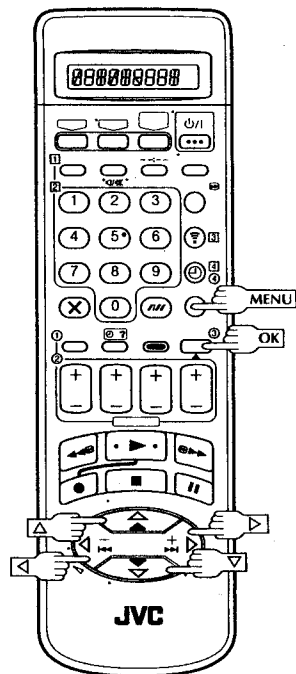
ID*	STATION NAME
1000	TV1000
3SAT	3SAT
ADLT	ADULT
ANT3	ANTENA3
ARD	ARD
ARTE	ARTE
BBC	BBC GROUP
BBC1	BBC1
BBC2	BBC2
BR3	BAYERN3
C+	CANAL PLUS
C1	PORTUGUSES
CAN5	CANALE5
CANV	KETNET CANVAS
CH4	CHANNEL4
CH5	CHANNEL5
CHLD	CHILD
CINE	CINEMA
CLUB	TELECLUB
CMT	CNN
CNN	CNN
CSUR	ANDALUCIA
DISC	DISCOVERY
DR	DR TV
DRS	DRS
DSF	DSF
ETB1	ETB1
ETB2	ETB2
EURO	EURONEWS
EUSP	EUROSPORTS
FEMM	FEMMAN
FILM	FILM
FNET	FILMNET
FR2	France2
FR3	France3
GALA	GALAVISION
HR3	HESSEN3
INFO	INFO-KANAL
ITA1	ITALIA1
ITA7	ITALIA7
ITV	ITV
JSTV	JSTV
KA2	KA2
KAB1	KABEL1
KAN2	KANAL2
LOCA	LOCAL
M6	M6
MBC	MBR
MCM	MCM
MDR	MDR
MOVE	MOVIE
MTV	MTV
MTV3	MTV3
N3	NORD3
N-TV	N-TV
NBC	NBC SUPER
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
NEWS	
NICK	NICKELODEON
NRK	NRK
NRK2	NRK2
ODE	ODEON
ORF1	ORF1

ID*	STATION NAME
ORF2	ORF2
ORF3	ORF3
OWL3	OWL3
PREM	PREMIERE
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RET4	RETE4
21	TELE21
RTBF	RTBF1 or 2
RTL	RTL
RTL2	RTL2
RTL4	RTL4
RTL5	RTL5
RTP	RTP
S4	SCHWEIZ4
SAT1	SAT1
SBS	SBS
SHOW	SHOW
SIC	SOCIEADE
SKY	SKY CHANNEL
SKYN	SKY NEWS
SPRT	SPORT
SRTL	SUPER RTL
STAR	STAR-TV
SVT1	SVT1
SVT2	SVT2
SWR	SUEDWEST3
TCC	TCC
TELE	TELE
TEL5	TELE5
TF1	TF1
TM3	TM3
TMC	TELEMONTECARLO
TNT	TNT INT
TRT	TRT INT
TSI	TSI
TSR	TSR
TV1	BRTN TV1
TV2	TV2
TV3	TV3
TV4	TV4
TV5	TV5
TV6	TV6
TVE1	TVE1
TVE2	TVE2
TVG	TV GALICIA
TVI	TV INDEPENDENT
TVN	TV NORGE
VCR	VIDEO
VERO	VERONICA
VH-1	VH-1
VIVA	VIVA
VIVA2	VIVA2
VMTV	VIDEO MUSIC
VOX	VOX
VT4	VT4
VTM	VTM
WDR1	West1
WDR3	West3
YLE1	YLE1
YLE2	YLE2
ZDF	ZDF
ZTV	ZTV

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen when the recorder is tuned to a different station.

Fine-Tuning Channels Already Stored

Perform steps 1 and 2 of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.



1 SELECT CHANNEL TO FINE-TUNE

Press Δ or ∇ until the channel you want to tune begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3 PERFORM TUNING

Press $\triangleright$ until "+" or "-" begins blinking, then press Δ or ∇ until the picture is its clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps 1 through 3 as necessary.

4 CLOSE CONFIRMATION SCREEN

Press **MENU**.

SHOWVIEW® Setup

IMPORTANT

Normally, Auto Set Up (pg. 6), Preset Download (pg. 8) or Auto Channel Set (pg. 62) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- When timer-programming with the ShowView system, the channel position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.
- Set the Guide Program Number for that station manually.
- When you delete a channel or change channel positions manually after Auto Set Up or Auto Channel Set has taken place.
- Set the Guide Program Numbers for all the receivable stations manually.
- When you wish to timer-record a satellite programme with the ShowView system.
- Set the Guide Program Numbers for all satellite broadcasts received on your satellite tuner.

Turn on the TV and select the AV mode.

Guide Program Number Set

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS INITIAL SET SCREEN

Press Δ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or $\triangleright$.

3 ACCESS GUIDE PROG SET SCREEN

Press Δ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or $\triangleright$.

4 ENTER GUIDE PROG NUMBER

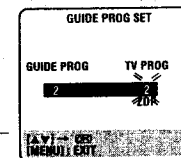
Press Δ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or $\triangleright$.



(Ex.) When inputting the Guide Program number 2 for ZDF.

5 ENTER RECEIVING CHANNEL POSITION NUMBER

Press Δ or **NUMBER** keys to input the number of the recorder's channel position on which the Guide Program number's broadcast is received. Then press **OK** or $\triangleright$.



- If the satellite broadcast is received on your recorder's auxiliary channel "L-1" or "L-2", select "L-1" or "L-2" for the channel position, depending on the connection to the satellite tuner (pg. 57 - 59).
- Repeat steps 4 and 5 as necessary.

6 RETURN TO NORMAL SCREEN

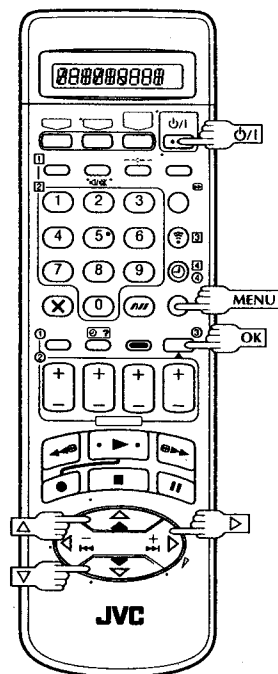
Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for the ShowView timer recording. The Guide Program numbers can be found in most TV listings.

Clock Set

Turn on the TV and select the AV mode.



Just Clock

The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "OFF"). Press OK until the Just Clock setting begins blinking, then press Δ / ∇ to change the setting.

IMPORTANT: If you turn off Just Clock, the accuracy of your recorder's built-in clock may be reduced, which could adversely effect timer recording. We recommend you to keep Just Clock on. In cases where the clock setting data from a PDC signal is incorrect, however, you are advised to keep Just Clock set to "OFF".

IMPORTANT

If you performed Auto Set Up (pg. 6), Preset Download (pg. 8) or Auto Channel Set (pg. 62), without ever having set the clock previously, the recorder's built-in clock is also set automatically.

Perform the following steps only if —

- Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
- or
- the recorder's memory backup has expired.
- or
- you want to change Just Clock setting (pg. "Just Clock" in the left column).

TURN THE RECORDER ON

Press ϕ /I.

ACCESS MAIN MENU SCREEN

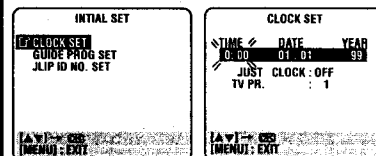
Press MENU.

ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing Δ / ∇ , then press OK or $\triangleright$.

ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing Δ / ∇ , then press OK or $\triangleright$. The Clock Set screen appears.



NOTE:

When you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (pg. 6, 10), you cannot use Just Clock function. Skip steps 6 and 7 on page 71.

SET DATE AND TIME

Press Δ / ∇ to set the time, then press OK or $\triangleright$. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold Δ / ∇ to change the time by 30 minutes.
- When you set the date, press and hold Δ / ∇ to change the date by 15 days.

SET JUST CLOCK

The default setting is "OFF". Set as desired by pressing Δ / ∇ , then press OK or $\triangleright$.

- For the just clock function, pg. "Just Clock" on page 70.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

SET CLOCK DATA SOURCE CHANNEL POSITION

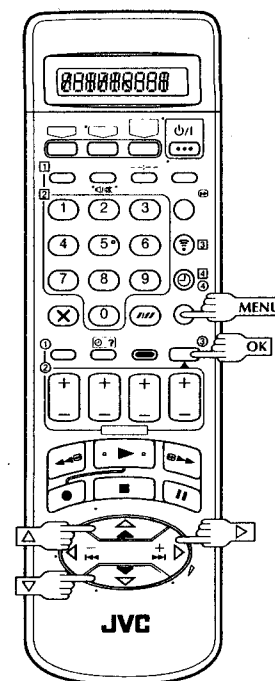
The recorder is preset to receive clock setting and adjustment data from channel position 1. Press Δ / ∇ to set the channel position to the number representing the station transmitting clock setting data, then press OK or $\triangleright$.

START CLOCK OPERATION

Press MENU.

NOTES:

- Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.
- Just Clock is not effective when ...
 - the recorder's power is on.
 - the recorder is in the Timer mode.
 - a difference of more than 3 minutes exists between the built-in clock's time and the actual time.
 - the recorder is in the Auto Satellite Prog Rec mode (pg. 37).
 - the recorder is in the Power Save mode (pg. 12).
- If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.
- Just Clock may not function properly depending on the reception condition.



Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	• The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	• "⓪" is displayed on the display panel with Auto Timer set to "OFF".	Press the ⓪ button to turn the "⓪" indicator off.
3. The remote control won't function.	• The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	• "⓪" is displayed on the display panel.	Press PLAY to turn the "⓪" indicator off.
2. The tape will not rewind or fast-forward.	• The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	• If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	• This is normal.	
3. Noise appears during normal playback.	• The automatic tracking mode is engaged.	Try manual tracking. (⓪ pg. 17)
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	• The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	• Automatic tracking is engaged.	Engage and adjust tracking manually (⓪ pg. 17), or set the soundtrack to "NORM" (⓪ pg. 21).

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	• There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	• "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2" has been selected as the input mode.	Set to the desired channel.
3. Tape-to-tape editing is not possible.	• The source (another video recorder, camcorder) has not been properly connected. • All necessary power switches have not been turned on. • The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".
4. Camcorder recording is not possible.	• The camcorder has not been properly connected. • The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	• The clock and/or the timer have been set incorrectly. • The timer is not engaged.	Re-perform the clock and/or timer settings. Press ⓪ and confirm that "⓪" is displayed on the display panel.
2. Timer programming is not possible.	• Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "⓪" and "⓪⓪" on the display panel won't stop blinking.	• The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "⓪" and "⓪⓪" on the display panel won't stop blinking.	• The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "⓪" blinks for 10 seconds and the Timer mode is disengaged.	• ⓪ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-program as necessary, then press ⓪ again.
6. The cassette is automatically ejected, the power shuts off and "⓪" and "⓪⓪" won't stop blinking. However, the cassette may not be ejected when the front panel is closed.	• The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme. When the front panel is closed and the cassette cannot be ejected fully, push the cassette into the recorder, then press EJECT to remove the cassette.
7. The ShowView system does not timer-record properly.	• The recorder's channel positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (⓪ pg. 69).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	• The camcorder's microphone is too close to the TV. • The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	• Those channels have been designated to be skipped.	If you need the skipped channels, restore them (⓪ pg. 64).
3. The channel cannot be changed.	• Recording is in progress.	Press PAUSE to pause the recording, change channels, then press PLAY to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	• After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	• The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (⓪ pg. 6).
6. The remote control won't operate the TV or satellite tuner.	• The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (⓪ pg. 47, 48).

Error Code

Some error codes may appear on the TV screen when operating the recorder. Refer to the chart below for the solution.

ERROR CODE	SYMPTOM	SOLUTION
104	● When a signal which cannot be digitally converted by the recorder has been recorded.	Sometimes a programme can be recorded but not played back because the signal system is not supported by the recorder. Switch to analog input such as "L-1" to record.
105	● When making an S-VHS/VHS recording of a signal from DV IN connector (i.Link).	The recorder's DV IN connector (i.Link) is especially for D-VHS recording. The digital signal is not converted to analog and then recorded. Switch to analog input such as "L-1" to record.
200	● When a signal which cannot be digitally converted by the recorder has been input and played back.	Playback is impossible because a signal system not supported by the recorder has been input.
201	● When normal playback is impossible such as with a mosaic (block-shaped noise).	The recorder is making adjustments in order to display normal picture. Please wait.
205	● When an attempt is made to play back a D-VHS recorded tape that has been found to be invalid.	This tape cannot be played back by this recorder.
300	● When a signal which cannot be digitally converted by the recorder has been input.	Nothing can be seen or heard because the signal system is not supported by the recorder.

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?

A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?

A. No. It stops automatically after 5 minutes to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?

A. No, it is normal.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?

A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?

A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?

A. No. The video recorder goes to its Stop mode automatically after 5 minutes to protect the heads.

Q. What happens if the tape runs out during recording?

A. The video recorder automatically rewinds it to the beginning.

TIMER RECORDING

Q. "○" and "⊙" remain lit on the display panel. Is there a problem?

A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?

A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the programme or tape you're viewing can be heard.

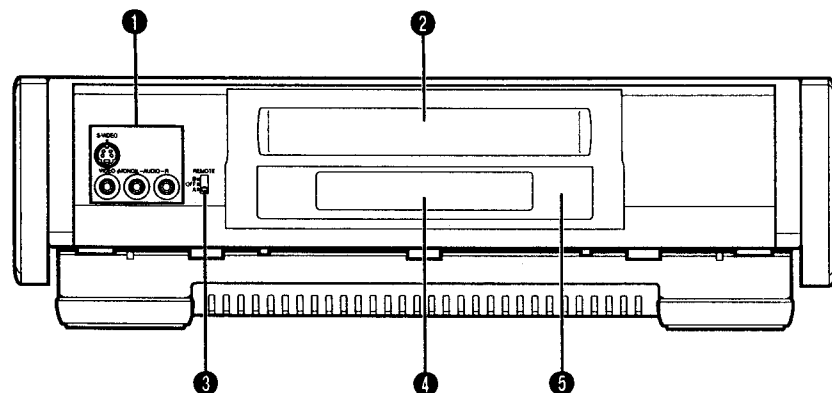
Q. Is it possible to timer-record a TV programme broadcast in 2000?

A. Yes, it is possible.

ATTENTION

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

FRONT VIEW



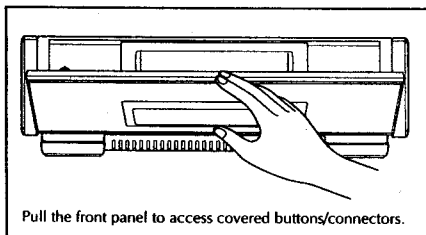
1 S-VIDEO/VIDEO/AUDIO Input Connectors
pg. 50

2 Cassette Loading Slot

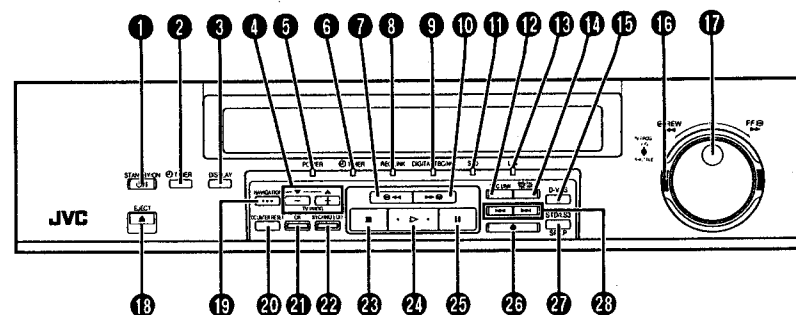
3 Remote Control Code Switch pg. 46

4 Display Panel pg. 79

5 Infrared Beam Receiving Window



INSIDE VIEW OF FRONT PANEL



1 STANDBY/ON ϕ /I Button pg. 6

2 $\odot$ TIMER Button pg. 31, 33

3 DISPLAY Button pg. 25

4 TV PROG +/- Buttons pg. 22

NAVIGATION $\blacktriangle$ $\blacktriangledown$ Buttons pg. 38

5 POWER Indicator

6 $\odot$ TIMER Indicator pg. 31, 33

7 Rewind [REW] Button pg. 15, 17

8 REC LINK Indicator pg. 37

9 DIGITAL TBC/NR Indicator pg. 19

10 Fast Forward [FF] Button pg. 15, 17

11 STD Indicator pg. 22

12 REC LINK Button pg. 37

13 LS3 Indicator pg. 22

14 DIGITAL TBC/NR Button pg. 19

15 D-VHS Button pg. 22

16 SHUTTLE Ring pg. 16, 17

17 TV PROG Dial pg. 22

JOG Dial pg. 16

18 EJECT Button pg. 15

19 NAVIGATION Button pg. 38

20 COUNTER RESET Button pg. 25

21 OK Button pg. 7

22 SYNCHRO EDIT Button pg. 55

23 STOP Button pg. 15

24 PLAY Button pg. 15

25 PAUSE Button pg. 16

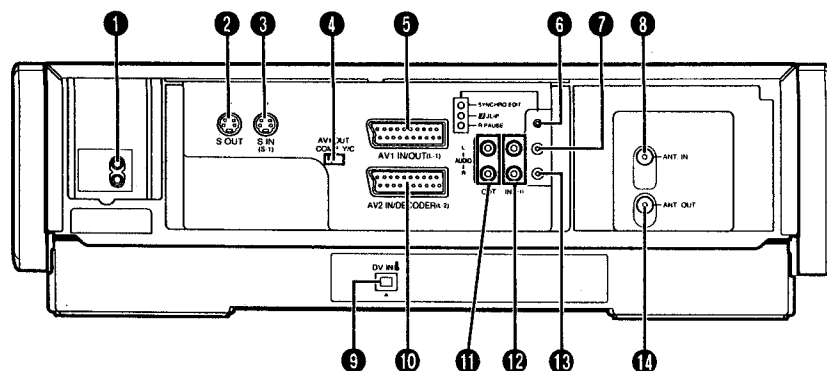
26 RECORD Button pg. 22

27 STD/LS3 Button pg. 22

SP/LP Button pg. 23

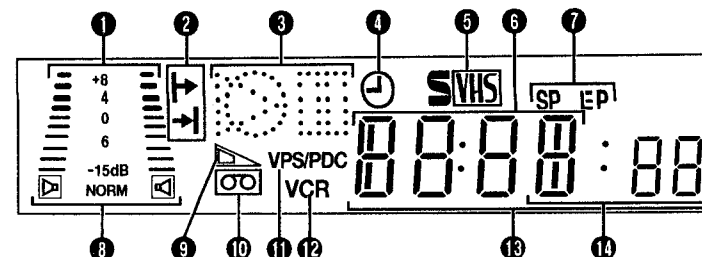
28 $\ll$ $\lll$ and $\ggg$ $\gg$ Buttons — same as $\triangleleft$ $\triangleleft$ Button on remote control pg. 16 – 18

REAR VIEW



- 1 Mains Power Inlet [pg. 4](#)
- 2 S OUT Connector [pg. 5](#)
- 3 S IN Connector [pg. 53](#)
- 4 AV1 OUT Switch [pg. 4](#)
- 5 AV1 IN/OUT Connector [pg. 4, 52, 57 – 60](#)
- 6 SYNCHRO EDIT Connector [pg. 55](#)
- 7 J terminal (JLIP (Joint Level Interface Protocol) Connector) [pg. 56](#)
- 8 ANT. IN Connector [pg. 4](#)
- 9 DV IN Connector (i.Link*) [pg. 50](#)
*i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The  logo is used for products compliant with the i.Link standard.
- 10 AV2 IN/DECODER Connector [pg. 52, 57 – 60](#)
- 11 AUDIO OUT (L/R) Connectors [pg. 61](#)
- 12 AUDIO IN (L/R) Connectors [pg. 53](#)
- 13 Remote PAUSE Connector [pg. 50](#)
- 14 ANT. OUT Connector [pg. 4](#)

DISPLAY PANEL



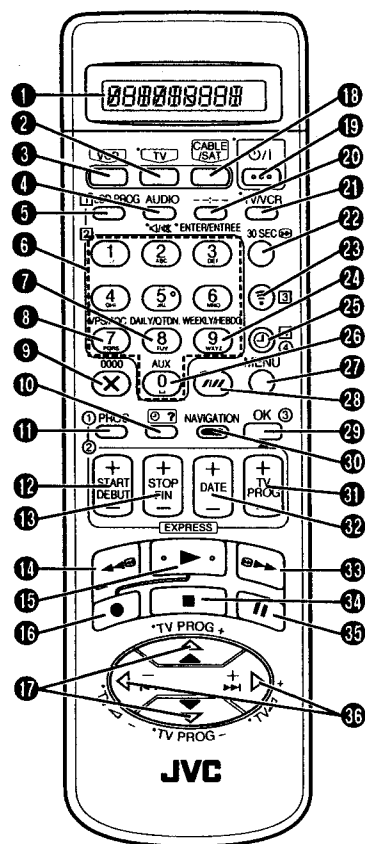
- 1 B.E.S.T. Picture System Display [pg. 28](#)
Audio Level Indicator
- 2 Programme Time Indicators [pg. 32](#)
- 3 Symbolic Mode Indicators

PLAY:	STILL:	
FF/REW VARIABLE SEARCH:	SLOW:	
	RECORD:	
	RECORD PAUSE:	

- 4 "Timer" Indicator [pg. 31, 33](#)
- 5 S-VHS Indicator [pg. 26](#)
- 6 Channel/Clock Display [pg. 9](#)

- 7 Tape Speed Indicators [pg. 23](#)
*EP is only for NTSC playback
- 8 Audio Mode Indicator [pg. 21](#)
- 9 Tape Remaining Time Indicator [pg. 25](#)
- 10 "Cassette Loaded" Mark
- 11 VPS/PDC Indicator [pg. 31, 33](#)
- 12 VCR Indicator [pg. 57](#)
- 13 Counter/Remain Display
(If the counter exceeds -20 hours ("-20:00:00"), the display does not show the "-2" of "-20:00:00". In this case, confirm the counter on the TV screen.)
- 14 Mode Display (I-1, L-1, L-2, F-1, S-1 or S-2)

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV. (pg. 47)

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite tuners of JVC and other brands. (pg. 47, 48)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

- 1 LCD Panel pg. 30, 81
- 2 TV Button pg. 47, 81
- 3 VCR Button pg. 46, 81
- 4 AUDIO Button pg. 21
- 5 MUTE (TV Muting) Button pg. 47
- 6 LCD PROG Button pg. 30
- 7 NUMBER Keys pg. 22, 30
- 8 DAILY Button pg. 31, 33
- 9 VPS/PDC Button pg. 31, 33
- 10 X Button pg. 30, 34, 41 - 43
- 11 0000 Button pg. 25
- 12 ? Button pg. 34
- 13 PROG Button pg. 30
- 14 START +/- Button pg. 32
- 15 STOP +/- Button pg. 32
- 16 Rewind [REW] Button pg. 15, 17
- 17 Play Button pg. 15
- 18 Record Button pg. 22
- 19 Δ▽ Button pg. 6
- 20 TV PROG +/- Button pg. 47
- 21 CABLE/SAT Button pg. 48, 81
- 22 STANDBY/ON ⏻ Button pg. 6
- 23 --- Button pg. 25
- 24 TV/VCR Button pg. 47
- 25 30 SEC Button pg. 17
- 26 ♢ Button pg. 30
- 27 WEEKLY Button pg. 31, 33
- 28 ⌚ Button pg. 31, 33
- 29 AUX Button pg. 50
- 30 MENU Button pg. 10
- 31 /// (Auto Tracking) Button pg. 17
- 32 STD/LS3 (SP/LP) Button pg. 22, 23
- 33 OK Button pg. 7
- 34 NAVIGATION Button pg. 38
- 35 TV PROG +/- Button pg. 22
- 36 DATE +/- Button pg. 32
- 37 Fast Forward [FF] Button pg. 15, 17
- 38 Stop Button pg. 15, 22
- 39 Pause Button pg. 16
- 40 ⏮⏭ Button pg. 16
- 41 TV ⏮⏭ +/- Button pg. 47

Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite tuner's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

- 1 To operate your video recorder, first press the VCR button to set the remote control to the video mode.
- 2 To operate your TV, first press the TV button to set the remote control to the TV mode (pg. 47).
- 3 To operate your satellite tuner, first press the CABLE/SAT button to set the remote control to the satellite tuner mode (pg. 48).

VIDEO A

TV

CABLE SAT

NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- Basic operations for the recorder
- After an operation is completed, "TV" reappears on the LCD.
- Express Timer Programming and ShowView Timer Programming operations
- To perform a TV operation again, switch to TV mode first.
- Accessing main menu
- To perform a TV operation again, switch to TV mode first.

NOTES:

- When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.
- If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.

A		M	
A/B Code	46	Manual Channel Setting	64
Audio Rec Mode	27	Manual Tracking	17
Auto Set Up	6	Multi-Brand Remote Control	47, 48
Auto SP → LP Timer	35		
Auto Timer	36	N	
Automatic Satellite Programme Recording	37	Next Function Memory	17
Aux Input	50		
B		O	
B.E.S.T. Picture System	28	On-Screen Display	11
C		P	
Cancel Timer Programme	34	Picture Control	49
Change Station Channel Position	65	Power Save	12
Check Timer Programme	34	Preset Download	8
Clock Setting	70		
Colour System Setting	14	R	
Connection To Satellite Tuner	57	Recording	22
D		Record One Programme While Watching Another	24
Delete Channel	65	Remote Control LCD	30, 81
Digital 3R	19	Repeat Playback	20
Digital TBC/NR	19	Replace Timer Programme	34
Direct Rec	13		
D-VHS Recording	22	S	
DV Sound Setting	51	Scrambled Broadcast	65
E		Set Stations	66
Editing	49	ShowView® Setup	69
Elapsed Recording Time	25	ShowView® Timer Programming	30
Express Timer Programming	32	Skip Search	17
F		Slow Motion Playback	17
Fine Tuning	68	Soundtrack Selection	21
Frame-By-Frame Playback	16	Still Picture Playback	16
G		S-VHS (Super VHS)	26
Guide Program Number Setting	69	S-VHS/VHS Recording	23
H		Synchro Editing	55
High-Speed (Turbo) Search	17		
I		T	
Index Search	18	Tape Position Indicator	15
Instant Timer Recording (ITR)	24	Tape Remaining Time	25
J		Tuner Setting	62
JLIP Terminal	56	T-V Link	13
Just Clock	70	TV Station And ID List	67
L		V	
Language	10	Variable-Speed Search	17
		Video Navigation	38
		Delete Data	42, 43
		Navigation	38
		Sorting By Category	45
		Sorting By Date	45
		Sorting By Tape Number	44
		Title Editing	40
		VPS/PDC	33

Auto Set Up - referring to the display panel

The Auto Set Up function sets the tuner channels, clock and Guide Program numbers automatically.

BEFORE YOU START PLEASE MAKE SURE THAT:

- The TV aerial cable is connected to the ANT.IN jack on the rear panel of the video recorder.
- The video recorder's mains power cord is connected to a mains outlet.
- The video recorder is turned off.
- Load batteries into the remote control.

1 Press U/I (recorder/remote).

SET 32

2 Press $\Delta \nabla$ (remote) to select the international telephone country code.

(Ex.) DEUTSCHLAND is selected.

SET 49

- If you have selected a country code other than 32 (BELGIUM) or 41 (SUISSE), go to step 3.
- If you have selected 36 (MAGYARORSZAG), 42 (CESKA REPUBLIKA), 48 (POLSKA) or EE (OTHER EASTERN EUROPE), press **OK**. Clock Set screen will appear. Set the clock manually (pg. 70 - 71), then go to step 3.

International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: --
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

- If you have selected 32 (BELGIUM) or 41 (SUISSE), press **OK** (remote) and select the language code by pressing $\Delta \nabla$ (remote), then go to step 3.

(Ex.) FRANCAIS is selected for BELGIUM

32-03

International Telephone
Country Code

Language Code

Language Code

ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

3 Press **OK** (remote). "Auto" appears on the display panel.

Auto

4 Press **OK** (remote) to start Auto Set Up. Do NOT press any button on the video recorder or remote control during "Auto" is blinking.

Auto

- If "(CH) 1" or "-- --" appears on the display panel, see page 9 of the instructions.

- Once you have performed Auto Set Up, even if the recorder's memory backup has expired, the recorder will not perform Auto Set Up again. Perform tuner setting (pg. 62) and/or clock setting (pg. 70) as required.

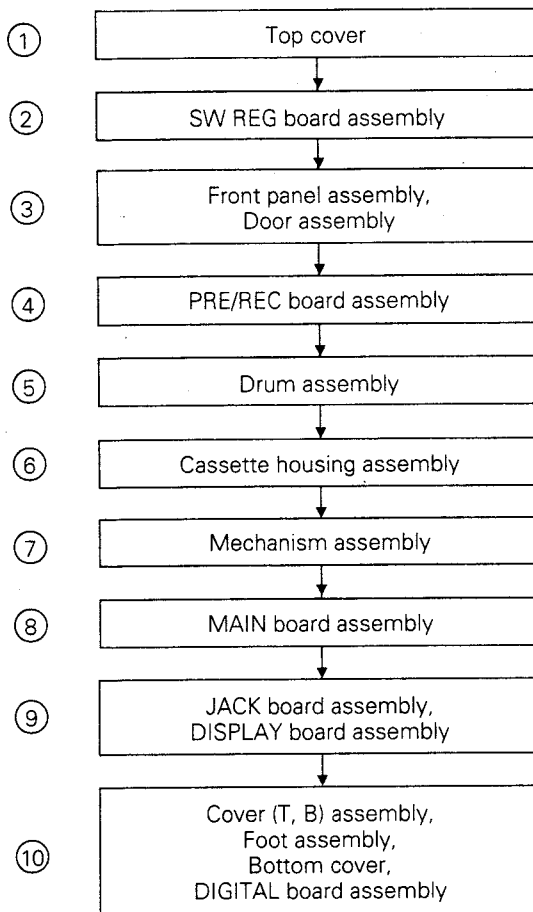
FOR MORE INFORMATION
SEE INSTRUCTIONS/P6

JVC
VICTOR COMPANY OF JAPAN, LIMITED

SECTION 1 DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists shows the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1a), 3(L1a), S.PANEL(L) ASSY, 3(L1b), S.PANEL(R) ASSY, (S1b)	<NOTE1>
②	SW REG BOARD ASSEMBLY	D2	L2(WR2a-WR2e), CN5304/CN5309(WR2a), CN5306(WR2b), CN5307(WR2c), CN5303(WR2d), CN5305(WR2e), CN5301(WR2f), 4(S2)	<NOTE 2a> <NOTE 2b> <NOTE 2c> <NOTE 2d>
③	FRONT PANEL	D3a	2(S3a), 9(L3), CN7102(WR3a), CN7004(WR3b)	<NOTE 2a> <NOTE 3a>
	DOOR ASSEMBLY	D3b	(S3b), WR3c, (S3c), SHAFT(R) ASSY, 2(S3d), SHAFT(L) ASSY, 2(S3e), DAMP UNIT ASSY, 2(S3f), SHAFT ASSY	<NOTE 3b> <NOTE 3c>
④	PRE/REC BOARD ASSEMBLY	D4	CN602(WR4a), CN601(WR4b), L4(WR4c), (S4a), SHIELD CASE(PRE/REC), CN605(WR4d), (S4b), WR4c, CN603, CN604	<NOTE 2a> <NOTE 4>
⑤	DRUM ASSEMBLY	D5	CN1(WR5a), CN1(WR5b), L5a, HEAD CLEANER ASSY, 3(S5)	<NOTE 2a> <NOTE 5>
⑥	CASSETTE HOUSING ASSEMBLY	D6a, D6b	CN3603(WR6), 2(S6a), (S6b), (S6c), 2(L6)	<NOTE 2a> <NOTE 6>
⑦	MECHANISM ASSEMBLY	D7	CN3002(WR7a), CN1(WR7b), WR7c, 2(S7), 2(L7)	<NOTE 2a> <NOTE 7>

(1) Order of steps in Procedure

When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

NOTE: The bracketed () WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1a), 3(L1a), S.PANEL(L) ASSY, 3(L1b), S.PANEL(R) ASSY, (S1b)	<NOTE1>
②	SW REG BOARD ASSEMBLY	D2	L2(WR2a-WR2e), CN5304/CN5309(WR2a), CN5306(WR2b), CN5307(WR2c), CN5303(WR2d), CN5305(WR2e), CN5301(WR2f), 4(S2)	<NOTE 2a> <NOTE 2b> <NOTE 2c> <NOTE 2d>
③	FRONT PANEL	D3a	2(S3a), 9(L3), CN7102(WR3a), CN7004(WR3b)	<NOTE 2a> <NOTE 3a>
	DOOR ASSEMBLY	D3b	(S3b), WR3c, (S3c), SHAFT(R) ASSY, 2(S3d), SHAFT(L) ASSY, 2(S3e), DAMP UNIT ASSY, 2(S3f), SHAFT ASSY	<NOTE 3b> <NOTE 3c>
④	PRE/REC BOARD ASSEMBLY	D4	CN602(WR4a), CN601(WR4b), L4(WR4c), (S4a), SHIELD CASE(PRE/REC), CN605(WR4d), (S4b), WR4c, CN603, CN604	<NOTE 2a> <NOTE 4>
⑤	DRUM ASSEMBLY	D5	CN1(WR5a), CN1(WR5b), L5a, HEAD CLEANER ASSY, 3(S5)	<NOTE 2a> <NOTE 5>
⑥	CASSETTE HOUSING ASSEMBLY	D6a, D6b	CN3603(WR6), 2(S6a), (S6b), (S6c), 2(L6)	<NOTE 2a> <NOTE 6>
⑦	MECHANISM ASSEMBLY	D7	CN3002(WR7a), CN1(WR7b), WR7c, 2(S7), 2(L7)	<NOTE 2a> <NOTE 7>
⑧	MAIN BOARD ASSEMBLY	D8	CN7101(WR8a), CN7001(WR8b), CN3602(WR8c), CN3605(WR8d), CN3606(WR8e), L8(WR8f-WR8g), CN2601(WR8f), CN1006(WR8g), 4(S8a)	<NOTE 2a>
⑨	JACK BOARD ASSEMBLY	D9	CN7103, 2(L9a)	<NOTE 2a>
	DISPLAY BOARD ASSEMBLY		(L9b), REC SAFETY BOARD ASSY, (L9c), CASS.SW BOARD ASSY, 4(L9d)	
⑩	COVER(T.B) ASSEMBLY, FOOT ASSEMBLY, BOTTOM COVER, DIGITAL BOARD ASSEMBLY	D10a, D10b	5(S10a), 2(S10b), 2(S10c), 4(S10d), 4(L10), 4(S10e)	<NOTE 2a> <NOTE 10a> <NOTE 10b>

<Note 1> When installing the top cover, make sure not to isolate the earth plate of the front panel ass'y.

<Note 2a> Be careful not to damage the connectors and wires etc. during connection and disconnection. When connecting the wires to the connectors, be careful with the wire direction.

<Note 2b> The shield cover of the switching regulator board ass'y is soldered to the board, be careful not to peel off the solder from the pattern when handling it.

<Note 2c> When installing the switching regulator board ass'y, make sure that the earth plate is passed through the hole in the bottom chassis and then touches the bottom cover.

<Note 3a> When installing the front panel ass'y, make sure that the door opener ㊦ is lowered.

<Note 3b> When fixing the screw (S3b), jointly secure the lug wire (WR3c).

<Note 3c> When installing the Damper Unit Ass'y and the Shaft Ass'y, secure them jointly with a screw while loosening the earth plate of the Front Panel Ass'y.

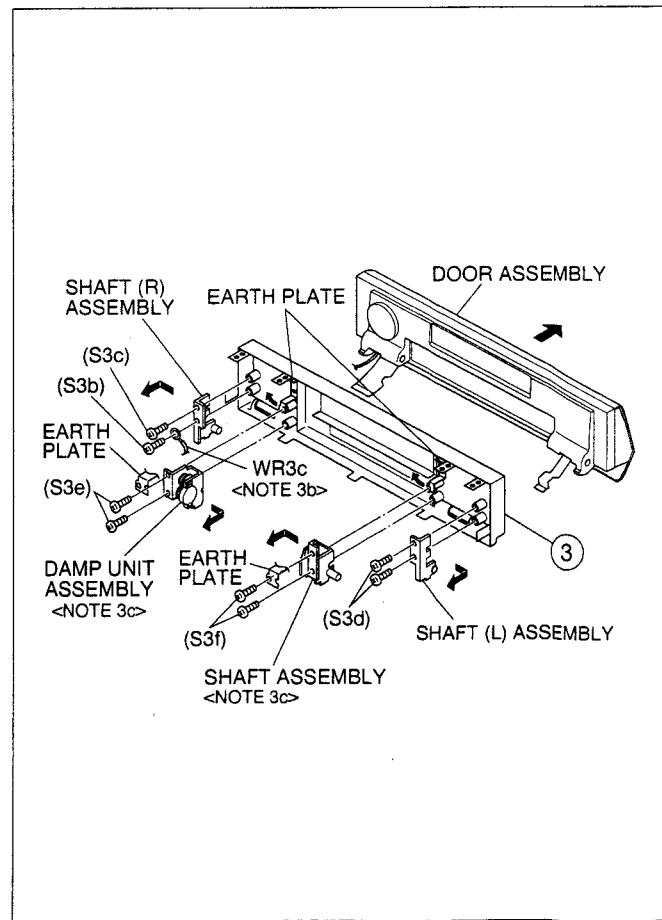
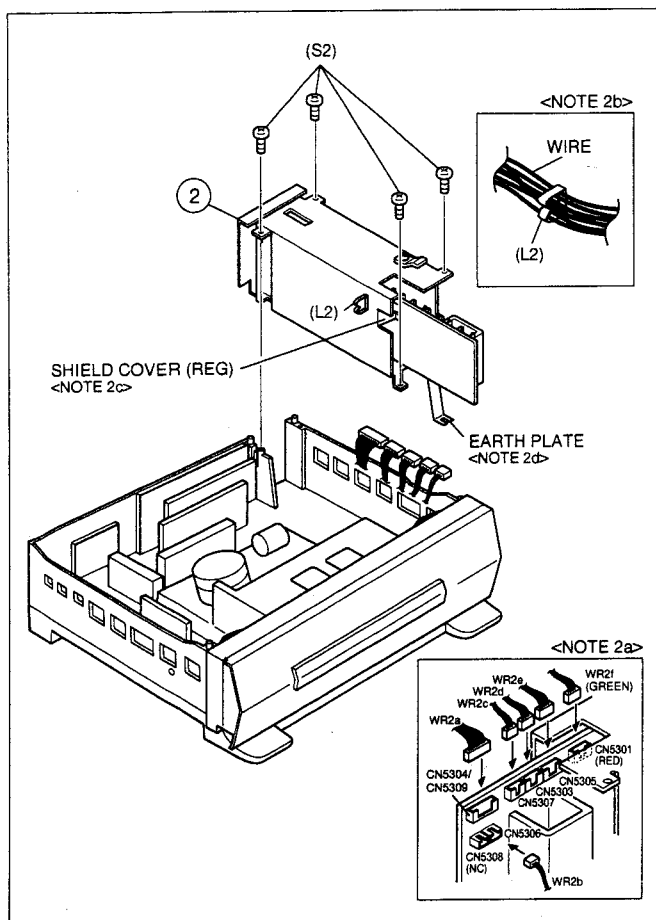
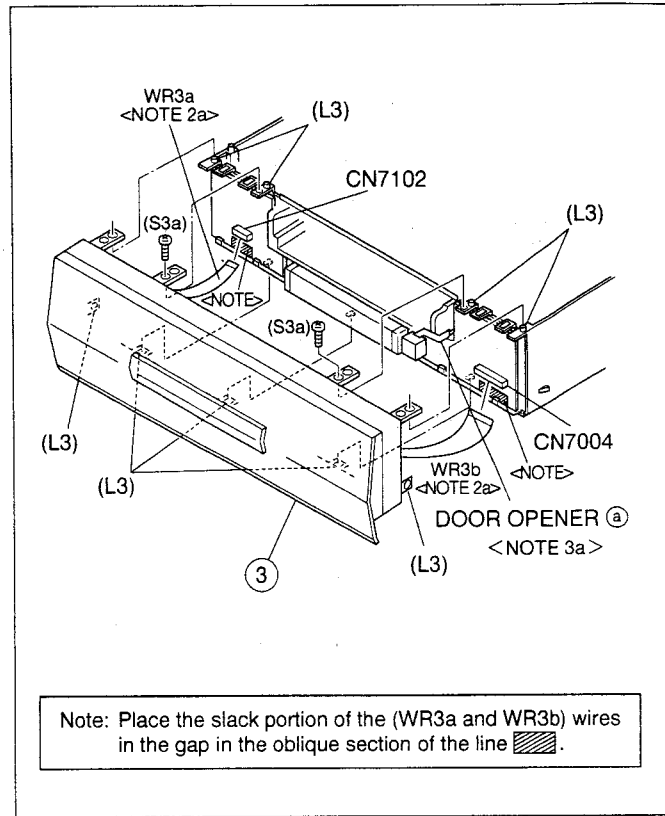
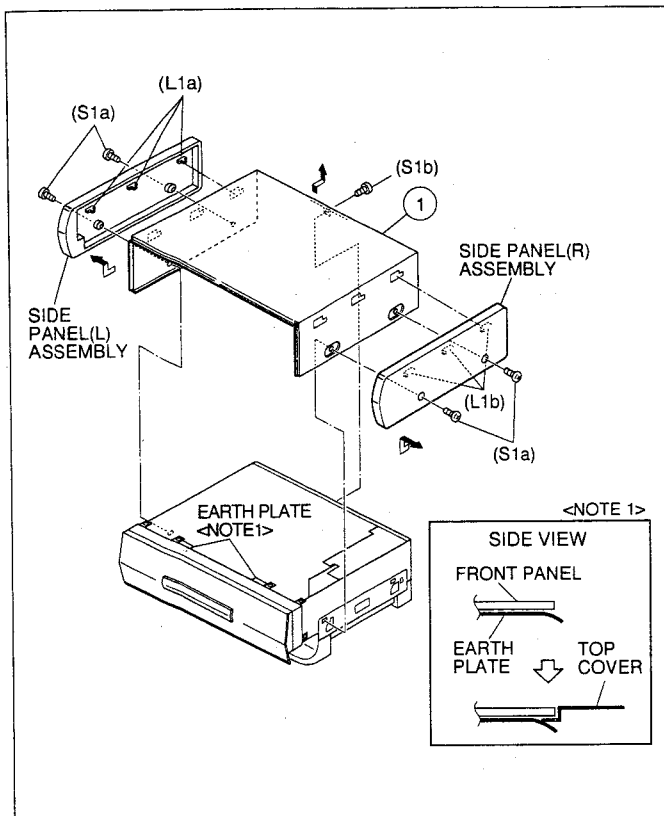
<Note 4> When fixing the screw (S4b), jointly secure the lug wire (WR4c).

<Note 5> When installing the Head Cleaner Ass'y, install the Head Cleaner Ass'y ㊦ so that it will be on the drum side of the guide rail ㊦. When installing the Drum Ass'y, secure it with the screws (S5) a,b,c, in that order.

<Note 6> When installing the Cassette Housing Ass'y, make sure that the control cam and the main deck alignment holes are aligned. If they are not, rotate the routing motor belt to the front to align the holes. When installing the Cassette Housing Ass'y, be careful not to damage the REC Safety Board SW, Cassette SW, S-VHS SW or Mechanism Ass'y parts.

<Note 7> There are two coupling spacers between the Mechanism Ass'y and the Main Board Ass'y. To remove the Mechanism Ass'y, disengage the spacer hook (L7) at the mechanism side by pinching it with pliers etc. then pull out the Mechanism Ass'y. When installing the Mechanism Ass'y, be careful not to damage any of the sensors or switches on the main board.

<Note 10> When installing the Digital Board Ass'y and the bottom cover on the bottom chassis, make sure that the wires are not caught.



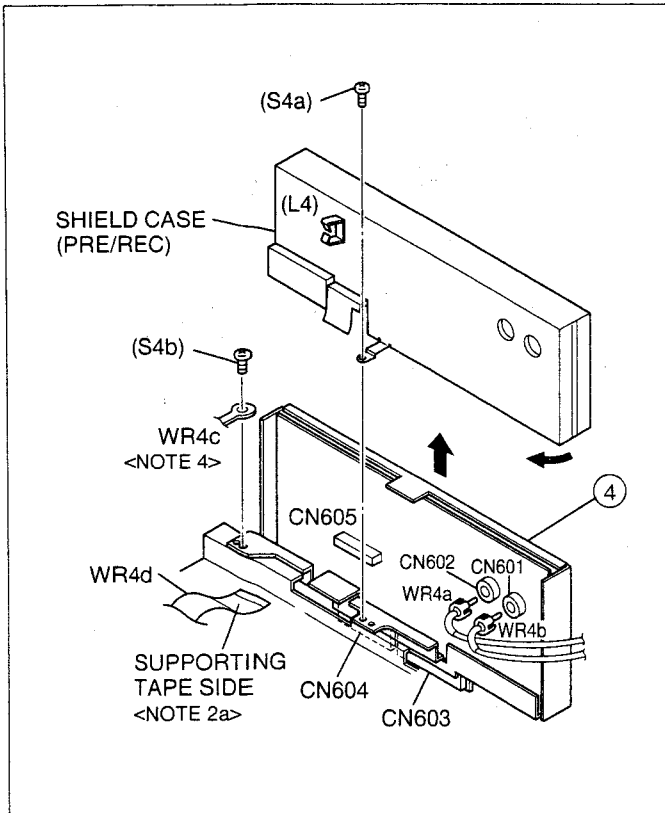


Fig. D4

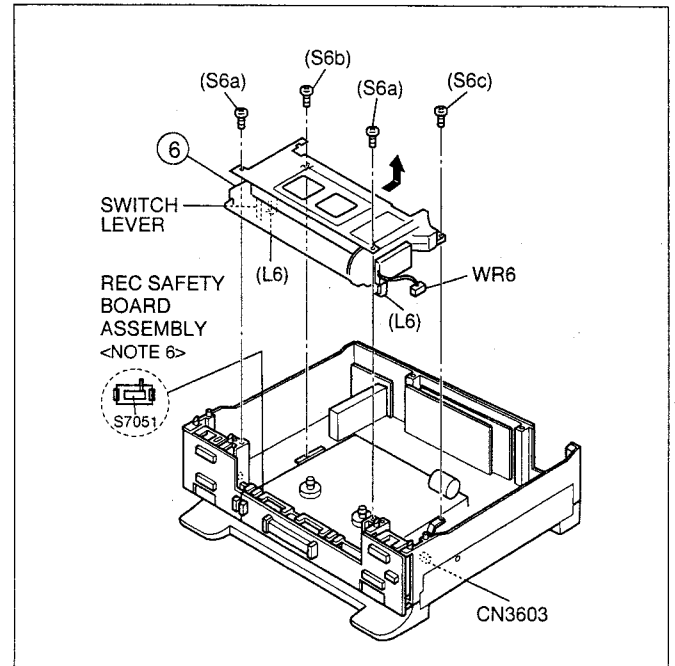


Fig. D6a

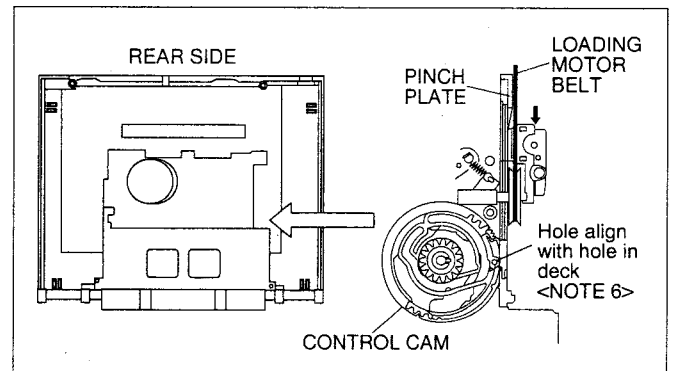


Fig. D6b

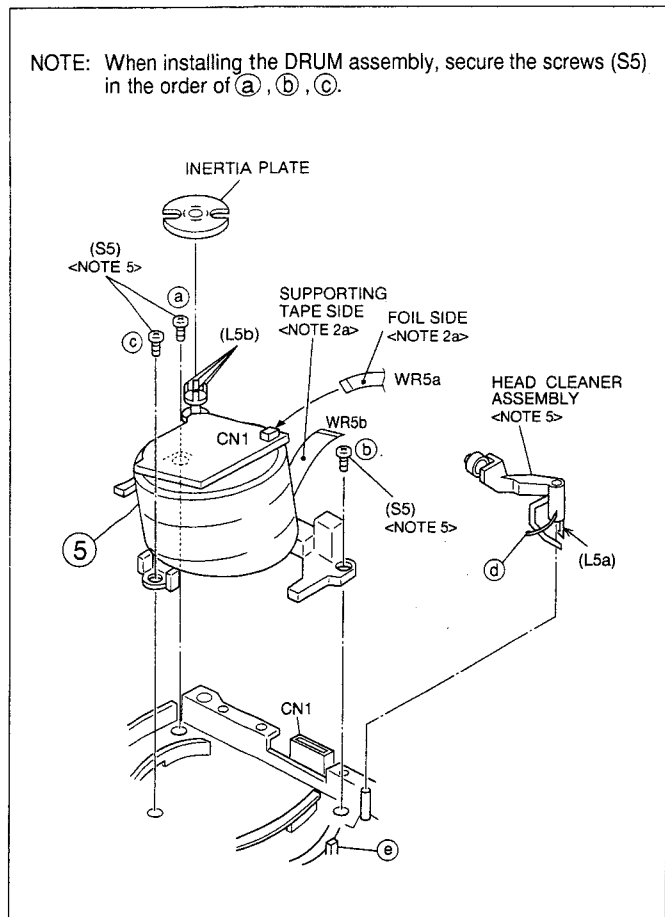


Fig. D5

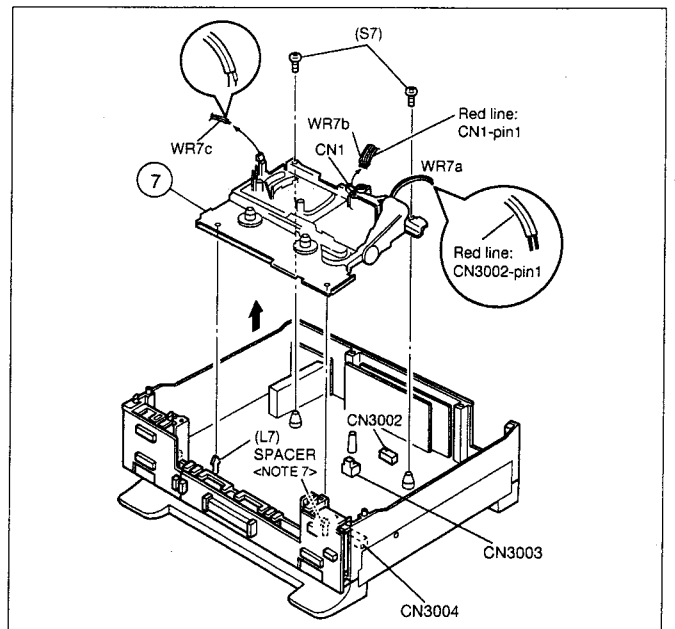


Fig. D7

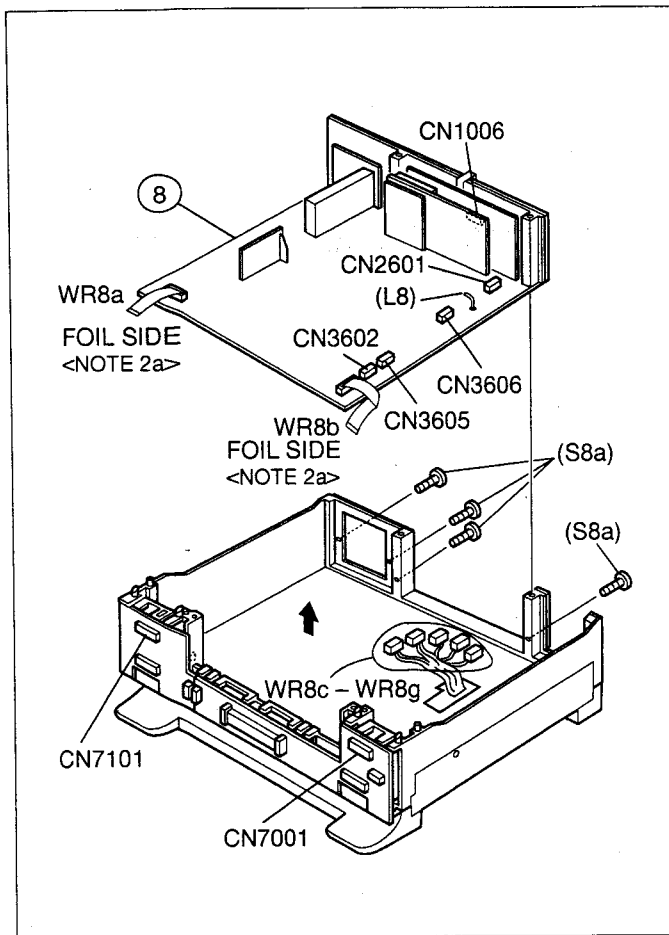


Fig. D8

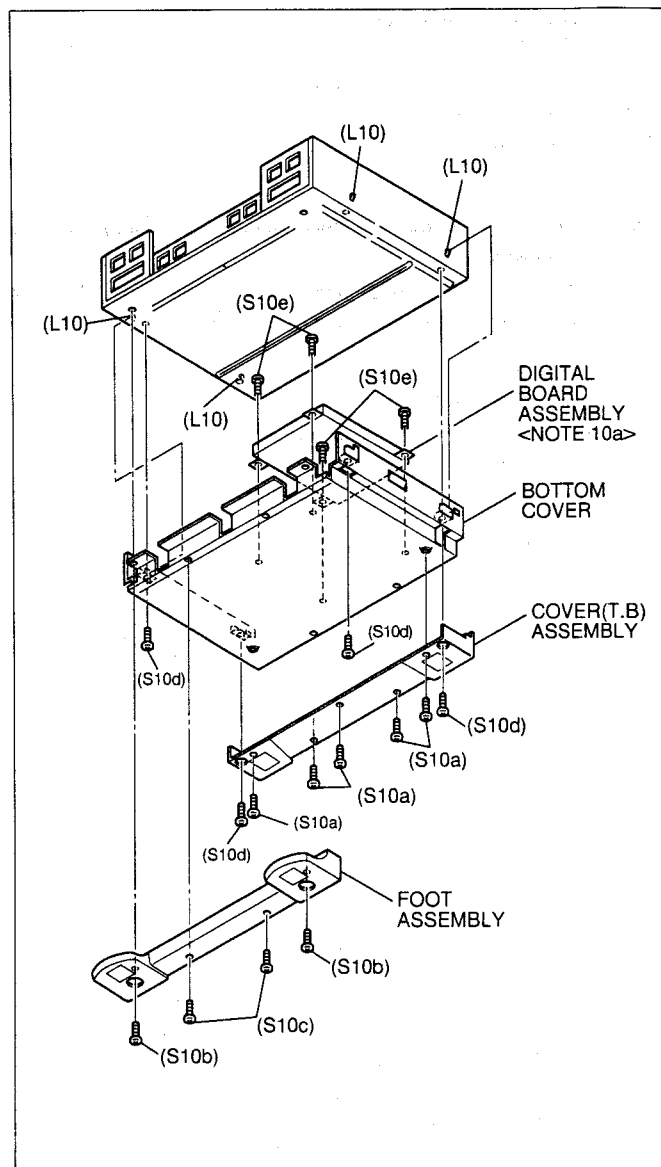


Fig. D10a

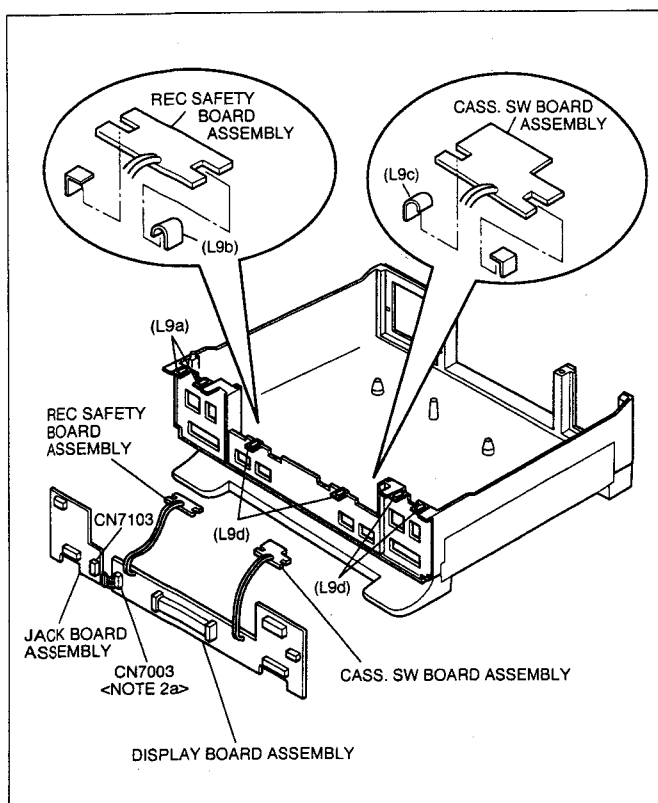


Fig. D9

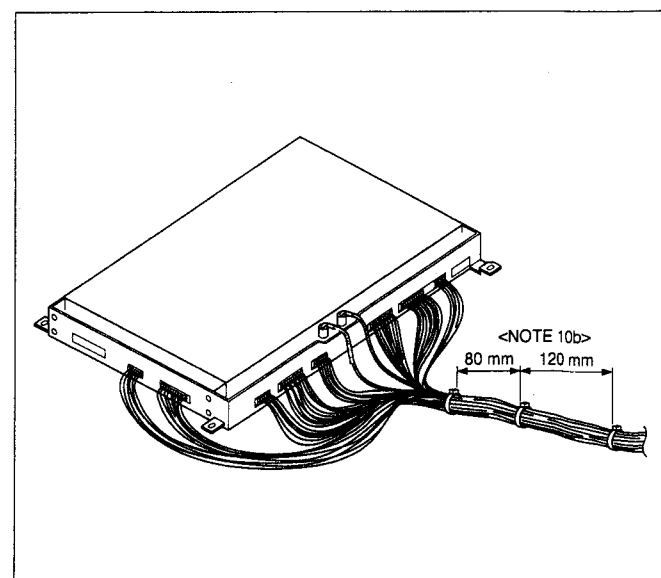


Fig. D10b

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Bottom chassis assembly.

1.4.1 How to take out the Mechanism and MAIN board assemblies.

- (1) Remove the Top cover, SWITCHING REGULATOR board assembly and Front panel assembly. (See DISASSEMBLY/ASSEMBLY METHOD.)
 - (2) Remove the flat wires CN7101 on the JACK board assembly, CN7001 on the DISPLAY board assembly. (See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)
 - (3) Remove the wires CN3602, CN3605, CN3606 and CN2601 on the MAIN board assembly. (See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)
 - (4) Remove the flat wire CN1006 on the 3D SVHS board assembly. (See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)
 - (5) Remove the wires CN601 and CN602 on the PRE/REC board assembly. (See Fig.D4 of DISASSEMBLY/ASSEMBLY METHOD.)
 - (6) Take out the 4 screws (A), 2 screws (B) and 2 screws (C) as shown in Fig.1-4-1.
 - (7) Remove the Mechanism assembly (including Cassette housing) and MAIN board assembly out of the chassis as shown in Fig.1-4-2.
 - (8) Remove the JACK board assembly and DISPLAY board assembly (including REC SAFETY board assembly and CASS. SW board assembly). (See DISASSEMBLY/ASSEMBLY METHOD.)
 - (9) Remove the DIGITAL board assembly. (See DISASSEMBLY/ASSEMBLY METHOD.)
- Note:** When remove the DIGITAL board assembly, remove the foot, cover(T.B) and bottom cover together.
- (10) Connect the wires which were removed at the steps (2) to (5).
 - (11) Carry out diagnosis and repair as necessary as shown in Fig.1-4-3.

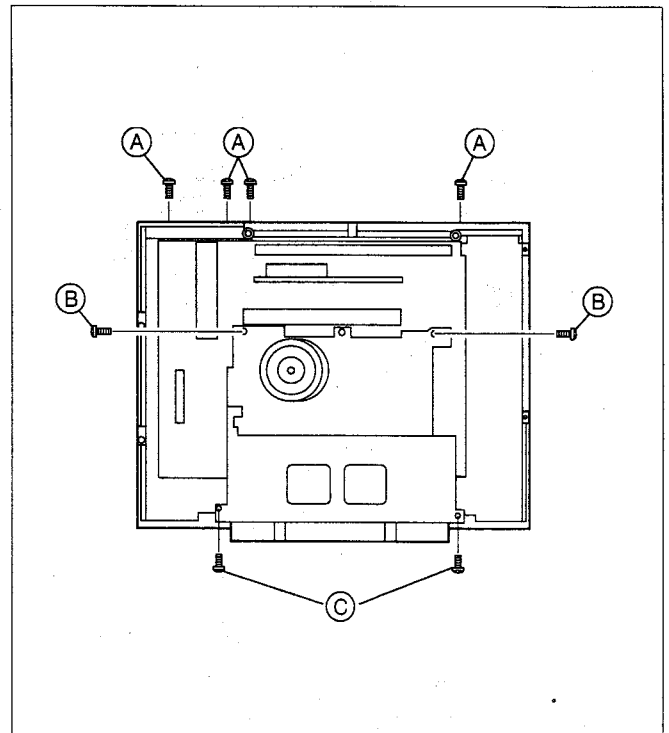


Fig. 1-4-1

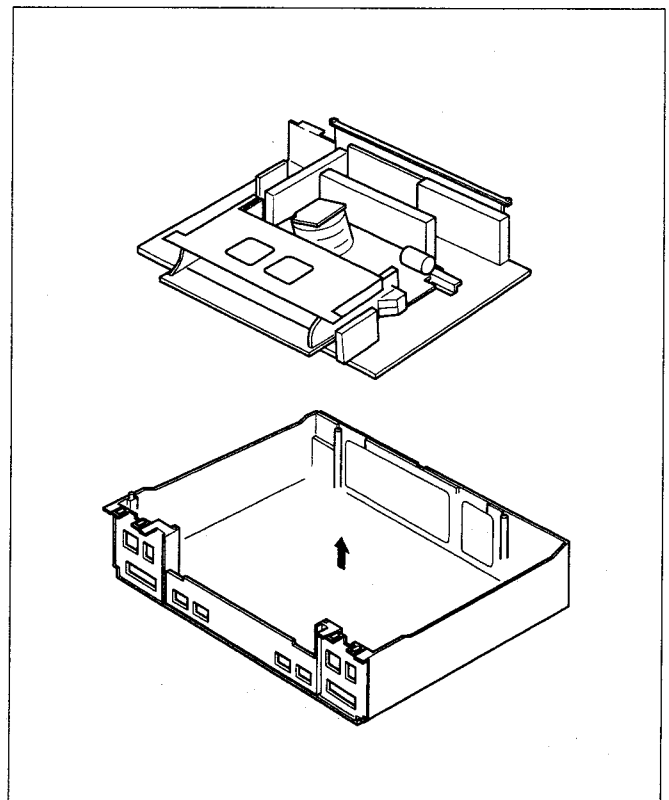


Fig. 1-4-2

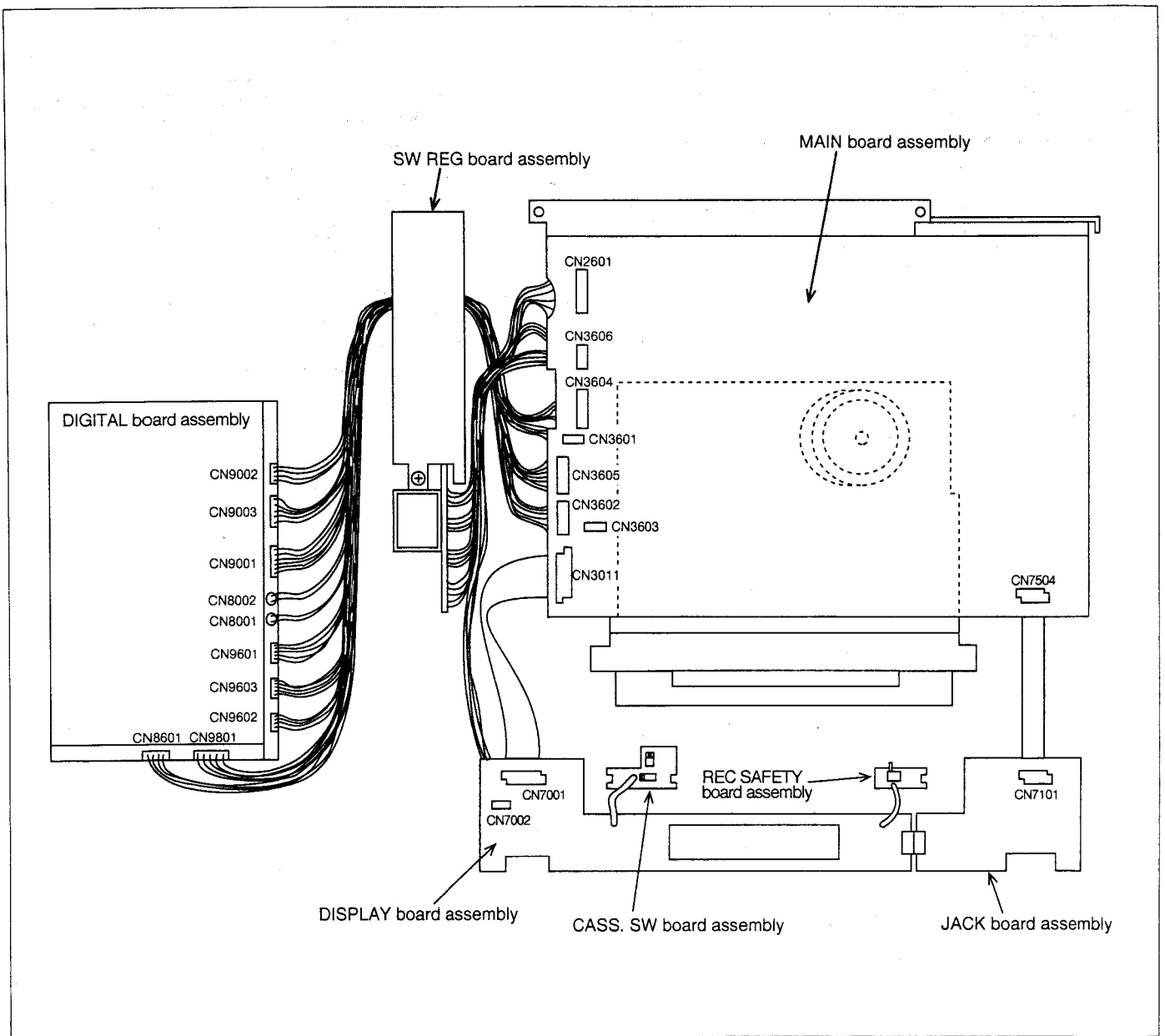


Fig. 1-4-3

1.4.2 Precautions for cassette loading in the "SERVICE POSITION"

The REC SAFETY board assembly of this set detects cassette loading as well as cassette tabs. Therefore, cassette loading in the "SERVICE POSITION" that the mechanism is disassembled from the set needs manual operation of the switches on the REC SAFETY and CASS. SW board assemblies.

1.4.3 Cassette loading and ejection methods in the "SERVICE POSITION"

- (1) Insert a cassette tape halfway in the Cassette housing assembly.
- (2) Press the switch (S7051) on the REC SAFETY board assembly.
- (3) When the cassette loading begins and the cassette tape goes down to the mechanism side, immediately release the switch (S7051) on the REC SAFETY board assembly to turn off and hold the status that the switch (S7053) on the CASSETTE SWITCH board assembly is turned on. (Fix the switch with adhesive tape, etc. on it to leave the switch in the ON status.)
- (4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

Note: When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording becomes possible even with a cassette tape with broken tab such as the alignment tape. Be very careful not to erase important tapes.

- (5) For ejecting the cassette tape in this status, do it in the re-

verse order of cassette loading mentioned above.

Note: If the manual operation REC SAFETY switch timing is incorrect, the cassette tape may be completely or partially ejected, and the cassette tape is often ejected incompletely. In such a case, it is possible to take out the cassette tape by hand.

- (6) If it is desired to load a cassette tape again after the cassette tape in the above procedure, make sure to set the tray of the cassette housing assembly in the frontmost position prior to loading the cassette tape again.

Note: The CASS. SW board assembly of this set has S-VHS tape detect switch (S7052). When performing diagnostics with a VHS cassette tape, press this switch on the CASS. SW board assembly to turn on.

1.4.4 Opening on the chassis

The bottom chassis of this set has openings for easy access to the checkpoints and connector pins. (See Fig.1-4-4.)

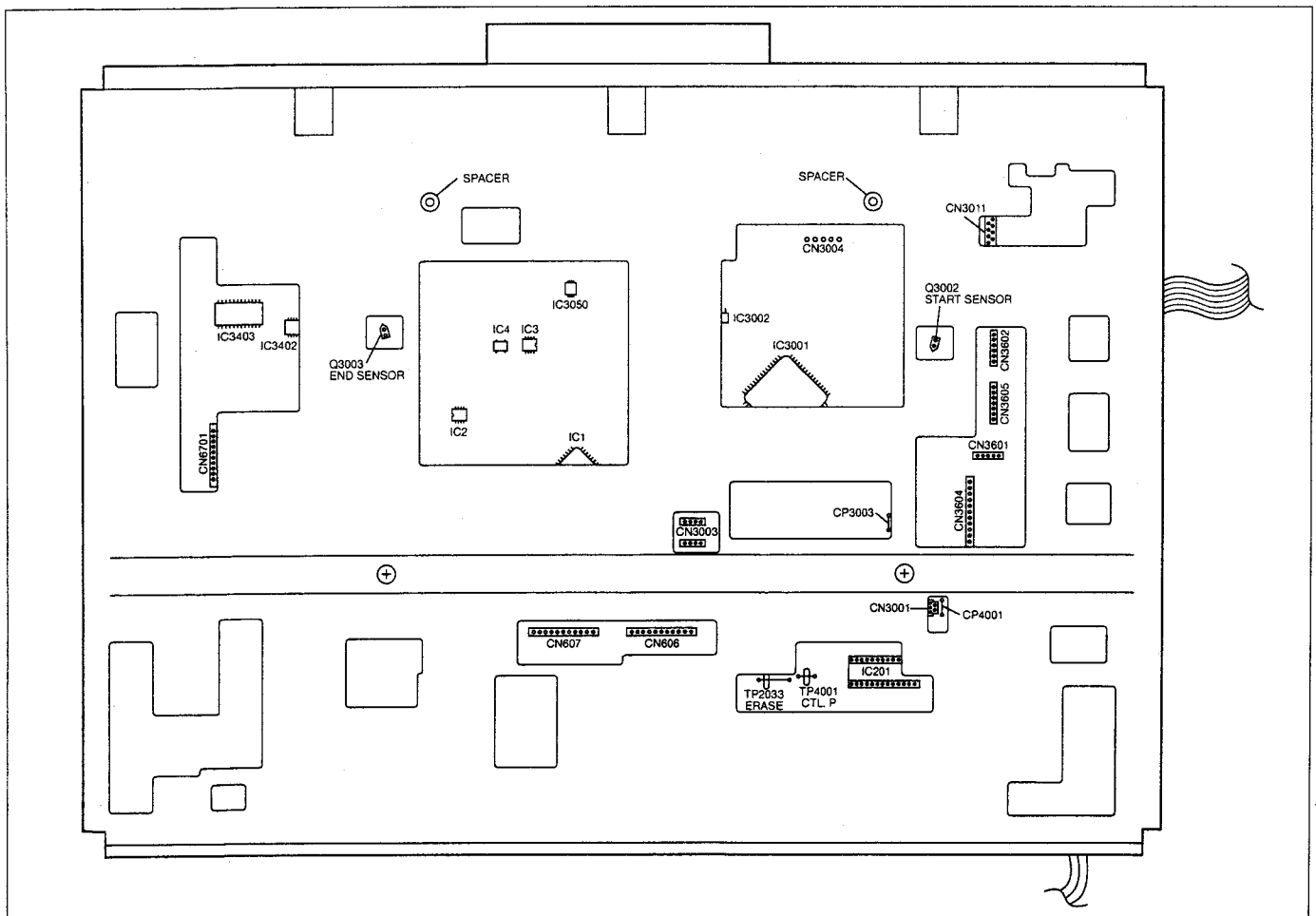


Fig. 1-4-4

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE."

Note: Before disassembling and assembling always refer to "HOW TO REMOVE THE MAJOR PARTS."

1.5.1 How to set the "MECHANISM SERVICE MODE"

- (1) Unplug the power plug from the power outlet.
 - (2) Remove the top cover and front panel assembly.
 - (3) Remove the cassette housing assembly. (See "HOW TO REMOVE THE MAJOR PARTS.")
 - (4) Short-circuit TP7001(TEST) and TPGND(GND) on the DISPLAY board assembly.
 - (5) Plug the power plug into the power outlet.
- The power of the set turn on, the loading operation occurs, and the power turns off.

- (6) Switch the power on.

The mechanism mode moves, and the mechanism is in the "MECHANISM SERVICE MODE."
Now the desired operation is possible.

Note: For operation of the mechanism mode, use the remote controller or the operation button after connecting the door assembly to the set.

1.5.2 How to exit from the "MECHANISM SERVICE MODE"

- (1) Unplug the power plug from the power outlet.
 - (2) Remove short-circuiting of TP7001(TEST) and TPGND(GND) on the DISPLAY board assembly.
 - (3) Plug the power plug into the power outlet.
- The power of the set turn on, the unloading operation occurs, and the power turns off.

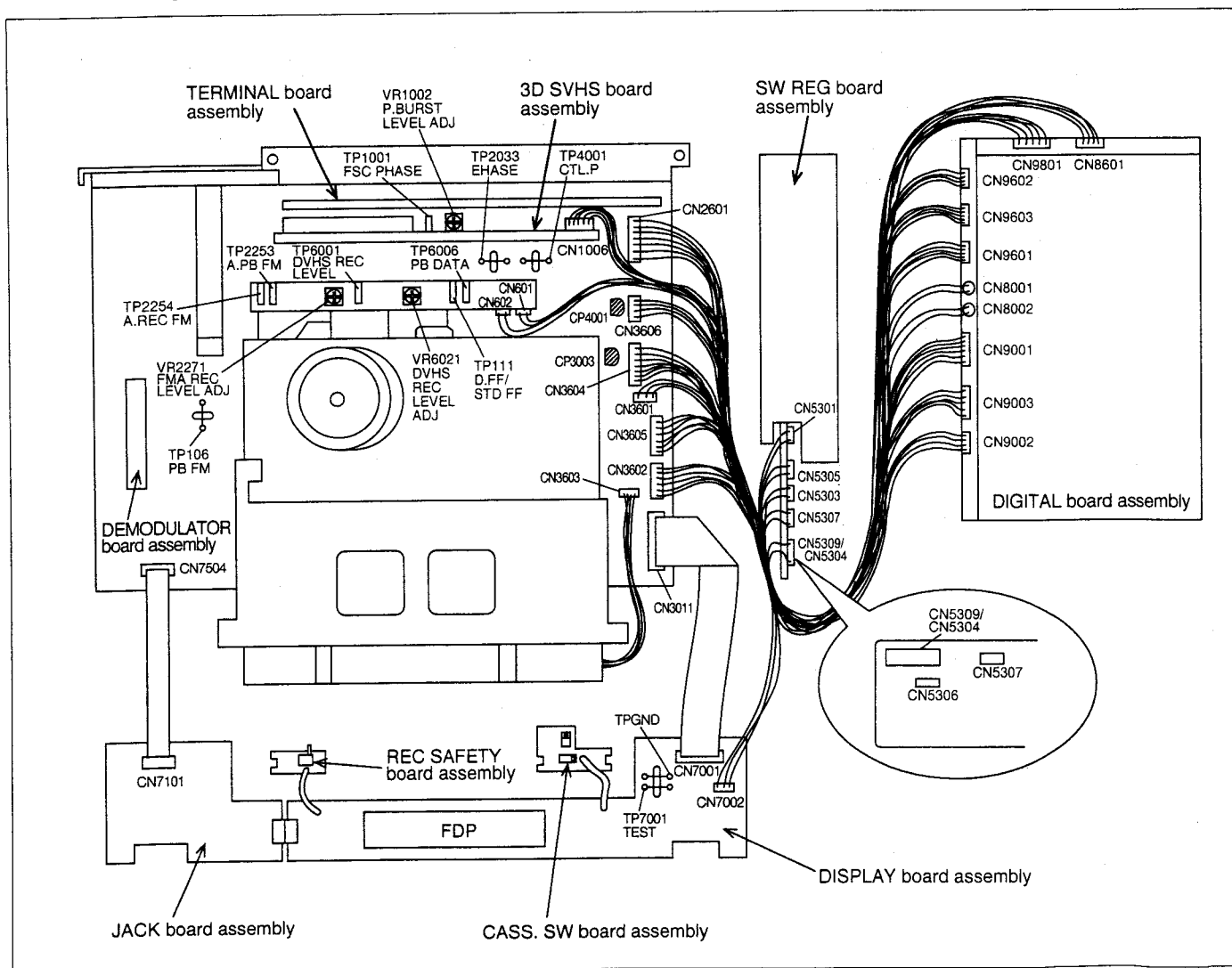
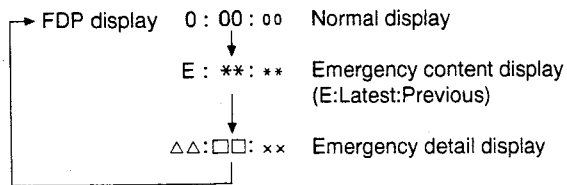


Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP. With the status of the set and mechanism at the moment an emergency occurred can also be confirmed.

FDP display switching



- NOTES:**
- The emergency detail display shows the information on the latest emergency. It becomes " -- : -- : -- " when there is no latest emergency record.
 - When using the Jig RCU, set its custom code to match the custom code of the VCR.

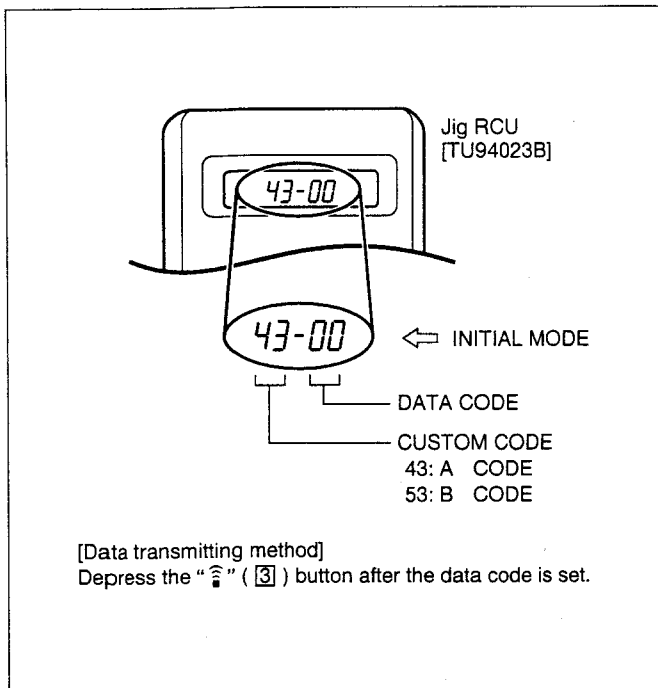
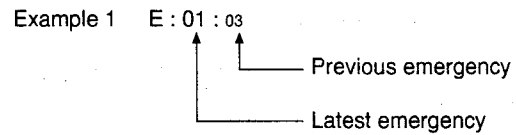


Fig. 1-7-1 Jig RCU

1.6.1 Displaying the emergency information

- (1) Transmit the code "59" from the Jig RCU.
The FDP shows the emergency content in the form of "E:**:**".



NOTE: • For the emergency content, see "1.6.3 Emergency content description".

- (2) Transmit the code "59" from the Jig RCU again.

The FDP shows the emergency detail information in the form of "ΔΔ : □□ : ××".

- ΔΔ : Deck operation mode at the moment of emergency
- : Mechanism mode at the moment of emergency
- ×- : Mechanism sensor information at the moment of emergency
- × : Mechanism mode position at the moment of emergency

NOTE: • For the emergency detail information, see "1.6.4 Emergency detail description".

- (3) Transmit the code "59" from the Jig RCU once again to reset the display.

1.6.2 Clearing the emergency history

- (1) Display the emergency history.
- (2) Transmit the code "36" from the Jig RCU.
- (3) Reset the emergency display.

1.6.3 Emergency content description

NOTE: Emergency contents "E08/E09" are for the model with Dynamic Drum (DD).

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	① The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. ② The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. ③ Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. ② The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. ③ The drum control voltage (DRUM CTL V) is not supplied to the MDA. ④ Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	① The cassette cannot be ejected due to a failure in the drive mechanism of the housing. ② When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. (Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. ③ The sensor/switch for detecting the end of ejection are not functioning normally. ④ The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). ⑤ When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	① The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). ② The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. ③ The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. ④ Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	① The SW 5 V power supply circuit is shorted with GND. ② The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	① The absolute value sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. ④ The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	① The FG sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. ④ The power to the sensor is not supplied. (Connection failure/soldering failure) ⑤ The FG pulse is not sent to the System Controller CPU. ⑥ The tilt motor is defective. (The soldered parts have separated.) ⑦ The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) ⑧ The tilt motor drive MDA - IC is defective. ⑨ Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the reel EMG is not detected in the SLOW/STILL mode).	① The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. ② The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.) because; 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. ③ The power to a reel sensor is not supplied.
EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:U1" FDP : "U:01" OSD : "Try cleaning tape." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-6-1

1.6.4 Emergency detail description

[FDP display] $\Delta\Delta:\square\square:\times\times$ (Deck operation mode: Mechanism operation mode: Mechanism sensor information & mechanism mode position)

$\Delta\Delta$: Deck Operation Mode

$\Delta\Delta$	Deck Operation Mode
00	STOP with pinch roller pressure off (or tape present with P.OFF)
01	STOP with pinch roller pressure on
04	PLAY
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH (variable speed)
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE

Table 1-6-2

$\square\square$: Mechanism Operation Mode

$\square\square$	Mechanism Operation Mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG

Table 1-6-3

× - : Mechanism Sensor Information

×-	Mechanism Sensor Information			
	CASS SW	REC SAFETY SW	START SENSOR	END SENSOR
0-	ON (Cassette present)	OFF (Tab broken)	ON	ON
1-	ON (Cassette present)	OFF (Tab broken)	ON	OFF
2-	ON (Cassette present)	OFF (Tab broken)	OFF	ON
3-	ON (Cassette present)	OFF (Tab broken)	OFF	OFF
4-	ON (Cassette present)	ON (Tab present)	ON	ON
5-	ON (Cassette present)	ON (Tab present)	ON	OFF
6-	ON (Cassette present)	ON (Tab present)	OFF	ON
7-	ON (Cassette present)	ON (Tab present)	OFF	OFF
8-	OFF (Cassette absent)	OFF (Tab broken)	ON	ON
9-	OFF (Cassette absent)	OFF (Tab broken)	ON	OFF
A-	OFF (Cassette absent)	OFF (Tab broken)	OFF	ON
B-	OFF (Cassette absent)	OFF (Tab broken)	OFF	OFF
C-	OFF (Cassette absent)	ON (Tab present)	ON	ON
D-	OFF (Cassette absent)	ON (Tab present)	ON	OFF
E-	OFF (Cassette absent)	ON (Tab present)	OFF	ON
F-	OFF (Cassette absent)	ON (Tab present)	OFF	OFF

Table 1-6-4

- × : Mechanism Mode Position

- ×	Mechanism Mode Position
-0	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
-1	Tape being loaded/unloaded (When the pole base is located on the front side of the position jist beside the drum)
-2	STOP with pinch roller pressure off
-3	REV, REV STILL/SLOW position
-4	EJECT position, U/L STOP position
-5	FWD, FWD STILL/SLOW position
-6	FF/REW position
-7	Intermediate position during transition between other mechanism modes

NOTE: As the display is always "-7" at any intermediate position between mechanism mode, the position of transitory emergency may sometimes not be locatable.

Table 1-6-5

< Mechanism mode >

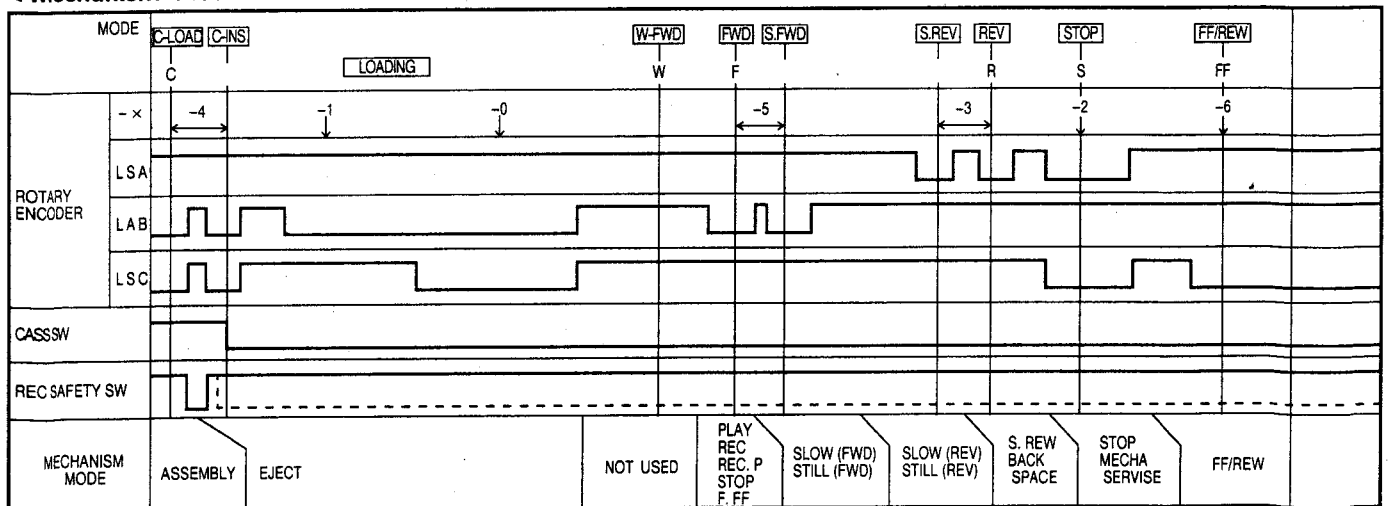


Table 1-6-6

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001)

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN	CTL(-) SIGNAL
4	CTLBias	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	IND(R)	IN	AUDIO INPUT(RCH) FOR THE FDP AUDIO INDICATOR
18	WA_DET.SCR_ID	IN	SCRAMBLECONTROL INPUT(SCRAMBLE:H)
19	D.ENV/HS1.ENV	IN	ENV.(D OR HS1) INPUT
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L),HS2.ENV	IN	ENV.(A OR HS2) INPUT
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL
31	P50_IN/P.SAVE(L)	IN	CONTROL SIGNAL FOR TV LINK/NC
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPU OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	OSD_CS	OUT	CHIP SELECT FOR THE ON SCREEN IC
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	SUB_BUZY	IN	DATA TRANSMISSION CONTROL SIGNAL INPUT
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	RMQ,BIL_SEL,PERI1S/FRONT_YC(H)	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE/NC
45	VCC	-	SYSTEM POWER
46	HOST_DATA_IN	IN	D-VHS HOST CPU DATA INPUT
47	HOST_DATA_OUT	OUT	D-VHS HOST CPU DATA OUTPUT
48	HOST_SCLK	OUT	DATA TRANSFER CLOCK FOR HOST CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	EDS(H),BIT_IN(H)	-	NC

Table 1-7-1 SYSCON CPU pin function(1/2)

PIN NO.	LABEL	IN/OUT	FUNCTION
57	LCM2	OUT	LOADING MOTOR DRIVE(2)
58	JUST_CLK,LOCK(L)	IN	TUNING PLL LOCK DETECT:L
59	HOST_BUSY	I/O	D-VHS HOST CPU BUSY
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESETON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	SUB_CS	OUT	CHIP SELECT FOR THE SUB CPU
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	CH1_RECST(H)	OUT	REC START CONTROL FOR CH1
78	CH2_RECST(H)	OUT	REC START CONTROL FOR CH2
79	HOST_CS	OUT	CHIP SELECT
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	ANT_CTL(L)/EDS_CS,SECAM(H)	-	NC
82	VCC	-	SYSTEM POWER
83	SLOW_P/AT_ON	OUT	MEMORY TIMING CONTROL,
84	VSS	-	GND
85	SP SHORT(H)	OUT	MODE SELECT
86	LP SHORT(H)	OUT	MODE SELECT
87	FLY_ON(H)	OUT	REC TIMING CONTROL(FLY ERASE ON:H)
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)	OUT	SPECIAL PB:H
90	REF30	IN	REFERENCE SIGNAL INPUT(30Hz)
91	REF5	IN	REFERENCE SIGNAL INPUT(5Hz)
92	CTL360	OUT	NOT USED
93	REC_AREA	OUT	D-VHS REC AREA CTL (STD MODE: H/LS3 MODE: $\overline{\text{L}}\overline{\text{L}}\text{L}$)
94	JSA	IN	INPUT FOR THE JOG SHUTTLE
95	SUB_RESET	OUT	RESET SUB CPU
96	SYNC_DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
97	JSB	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF/HS2_FF	OUT	HEAD SWITCHING CONTROL
100	D.FF/STD_FF/HS1_FF	OUT	HEAD SWITCHING CONTROL
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	HOST_RESET	OUT	RESET FOR THE HOST CPU
104	HS_RECST(H)	-	NC
105	CASS_SW	IN	CASS IN DETECT(C.IN:L)
106	CTL30	IN	NOT USED
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

1.8 CONNECTOR (WIRE) CONNECTIONS

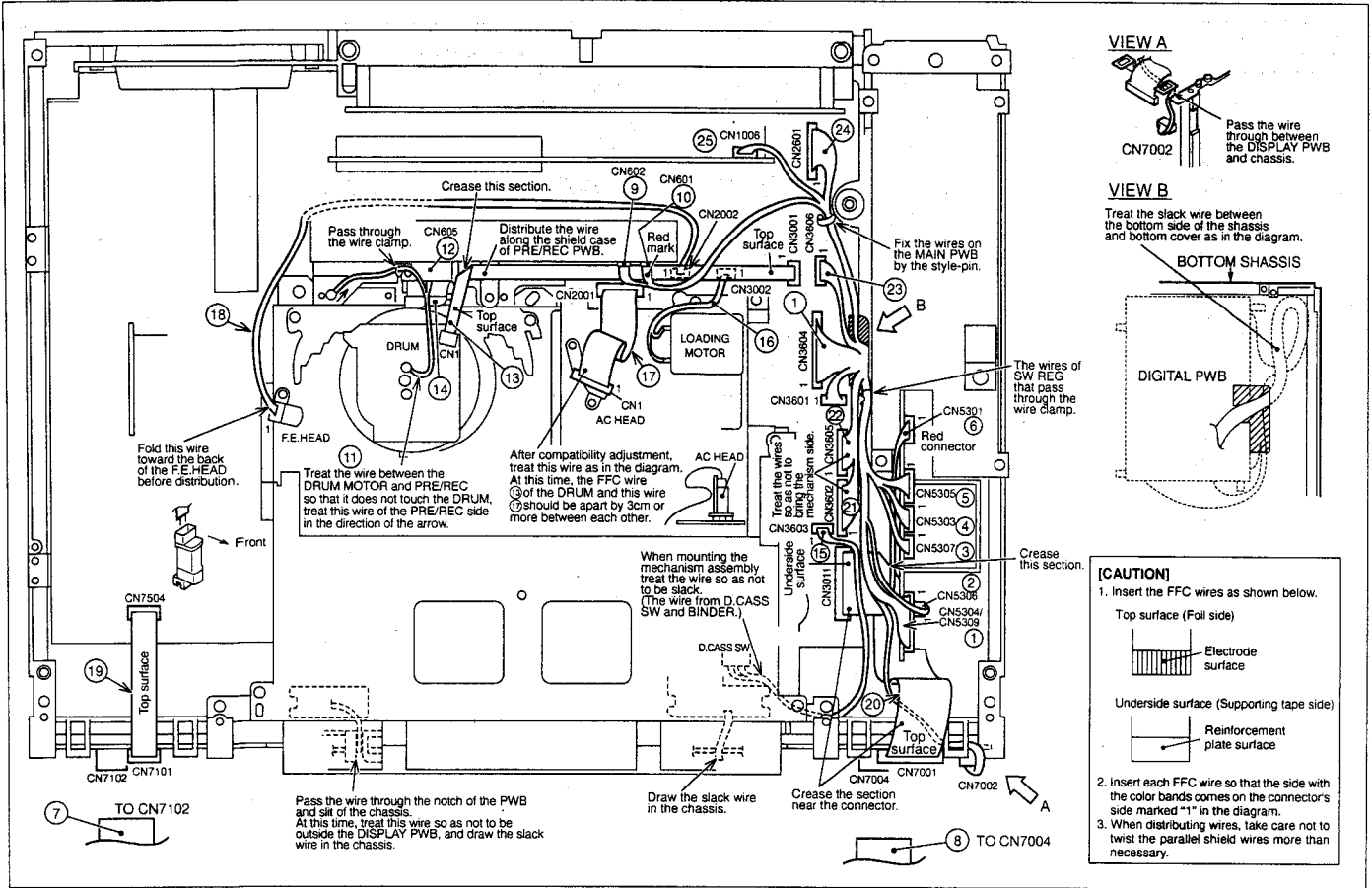


Fig. 1-8-1

Wire No.	Symbol	Connection			Pin No.	Type	Fig.No.	
		Connected point		Connected point				
①	WR2a	SW REG	CN5309,CN5304 ⇔	MAIN	CN3604	11	WIRE	D2
②	WR2b	SW REG	CN5306 ⇔	DIGITAL	CN9601	3	WIRE	D2
③	WR2c	SW REG	CN5307 ⇔	DIGITAL	CN9602	4	WIRE	D2
④	WR2d	SW REG	CN5303 ⇔	MAIN	CN3601	5	WIRE	D2
⑤	WR2e	SW REG	CN5305 ⇔	DIGITAL	CN9603	6	WIRE	D2
⑥	WR2f	SW REG	CN5301 ⇔	DISPLAY	CN7002	5	WIRE	D2
⑦	WR3a	ACK	CN7102 ⇔	DOOR		12	FFC	D3a
⑧	WR3b	DISPLAY	CN7004 ⇔	DOOR		22	FFC	D3a
⑨	WR3c	SHAFT(R)		⇔ DOOR		1	GND WIRE	D3b
⑩	WR4a	PRE/REC	CN602	⇔ DIGITAL	CN8001	1	COAXIAL WIRE	D4
⑪	WR4b	PRE/REC	CN601	⇔ DIGITAL	CN8002	1	COAXIAL WIRE	D4
⑫	WR4c	PRE/REC		⇔ STATOR		1	GND WIRE	D4
⑬	WR4d	PRE/REC	CN605	⇔ DRUM		7	FPC	D4
-	-	PRE/REC	CN603	⇔ MAIN	CN606	9	BOARD TO BOARD	D4
-	-	PRE/REC	CN604	⇔ MAIN	CN607	10	BOARD TO BOARD	D4
⑭	WR5a	STATOR	CN1	⇔ MAIN	CN3001	5	FFC	D5
⑮	WR5b	MAIN	CN1	⇔ DRUM		8	FPC	D5
⑯	WR6	MAIN	CN3603	⇔ CASSETTE HOUSING		4	WIRE	D6a
⑰	WR7a	MAIN	CN3002	⇔ LOADING MOTOR		2	PARA RIBON WIRE	D7
⑱	WR7b	A/C HEAD	CN1	⇔ MAIN	CN2001	7	PARA RIBON WIRE	D7
⑲	WR7c	FE HEAD		⇔ MAIN	CN2002	2	PARA RIBON WIRE	D7
-	-	CAPSTAN MOTOR		⇔ MAIN	CN3003	8	BOARD TO BOARD	D7
-	-	ROTARY ENCODER		⇔ MAIN	CN3004	5	BOARD TO BOARD	D7
⑳	WR8a	JACK	CN7101	⇔ MAIN	CN7504	8	FFC	D8
㉑	WR8b	DISPLAY	CN7001	⇔ MAIN	CN3011	22	FFC	D8
㉒	WR8c	MAIN	CN3602	⇔ DIGITAL	CN9001	9	WIRE	D8
㉓	WR8d	MAIN	CN3605	⇔ DIGITAL	CN9003	7	WIRE	D8
㉔	WR8e	MAIN	CN3606	⇔ DIGITAL	CN9002	4	WIRE	D8
㉕	WR8f	MAIN	CN2601	⇔ DIGITAL	CN9801	9	WIRE	D8
㉖	WR8g	3D SVHS	CN1006	⇔ DIGITAL	CN8601	6	WIRE	D8
-	-	DISPLAY	CN7003	⇔ JACK	CN7103	4	BOARD TO BOARD	D9
-	-	DISPLAY	FW	⇔ REC SAFETY	FW	2	PARA RIBON WIRE	D9
-	-	DISPLAY	FW	⇔ CASS.SW	FW	3	PARA RIBON WIRE	D9

Table 1-8-1

SECTION 2

MECHANISM ADJUSTMENT

2.1 PREPARATION

2.1.1 Precautions

- (1) Disconnect VCR from AC power before soldering.
- (2) Avoid imparting stress to wires when disengaging connectors.
- (3) Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
- (4) Use care not to damage tabs, claws, etc during repairs.
- (5) Install the cassette housing assembly only when the mechanism is in the MECHANISM ASSEMBLING MODE position. (See 2.4.2.)
- (6) When reattaching the front panel assembly, make sure that the door opener of the cassette housing assembly is lowered in position prior to the reinstallation. (See SECTION 1 DISASSEMBLY.)

2.1.2 Check without cassette housing assembly

Mechanism operations can be observed easily by removing the cassette housing assembly. Use the MECHANISM SERVICE MODE. (See SECTION 1 DISASSEMBLY.)

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button, take out of the cassette tape according to the following procedure.

- (1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assembly.
- (2) Turn the loading motor on the Mechanism assembly by hand in the unloading direction to where the pole base assembly (supply and take up) is positioned below the cassette tape. At that time, pay careful attention to the tape not to get soiled with grease.
- (3) Take out 4 screws of the cassette housing assembly. (See SECTION 1 DISASSEMBLY.)
- (4) Remove the cassette housing with slackened tape and guard panel of cassette.
- (5) Wind up the tape by turning the reel hub (either supply or take up side for convenience) from the bottom of the cassette, and remove the cassette tape.

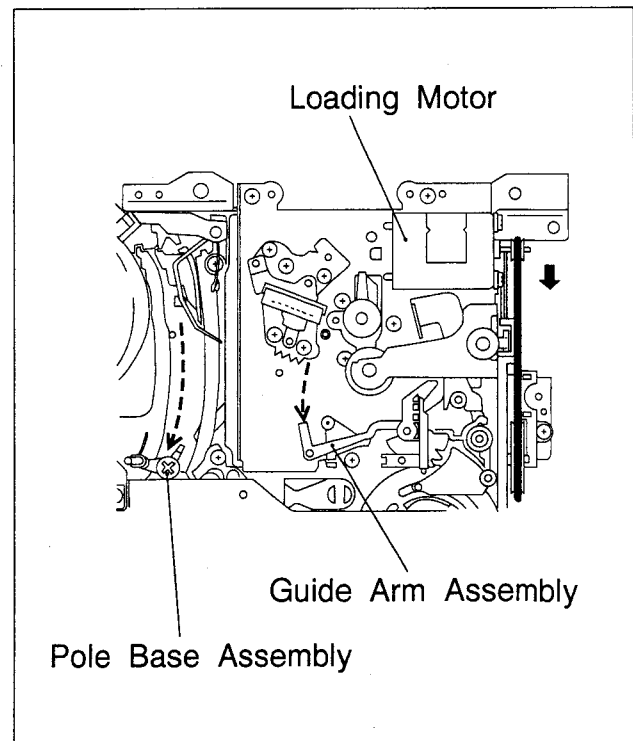


Fig. 2-1-1

2.1.4 Test Equipment

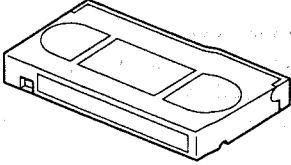
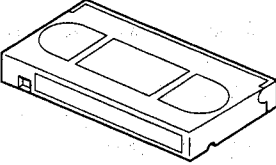
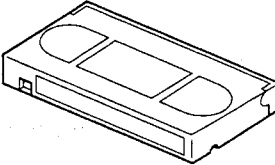
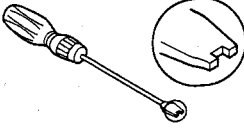
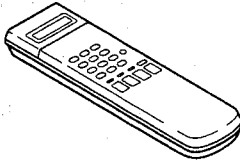
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head positioning tool PTU94010
			
Roller driver PTU94002	Jig RCU PTU94023B		
			

Table 2-1-1 Test equipment

2.2 MAIN MECHANISM PARTS

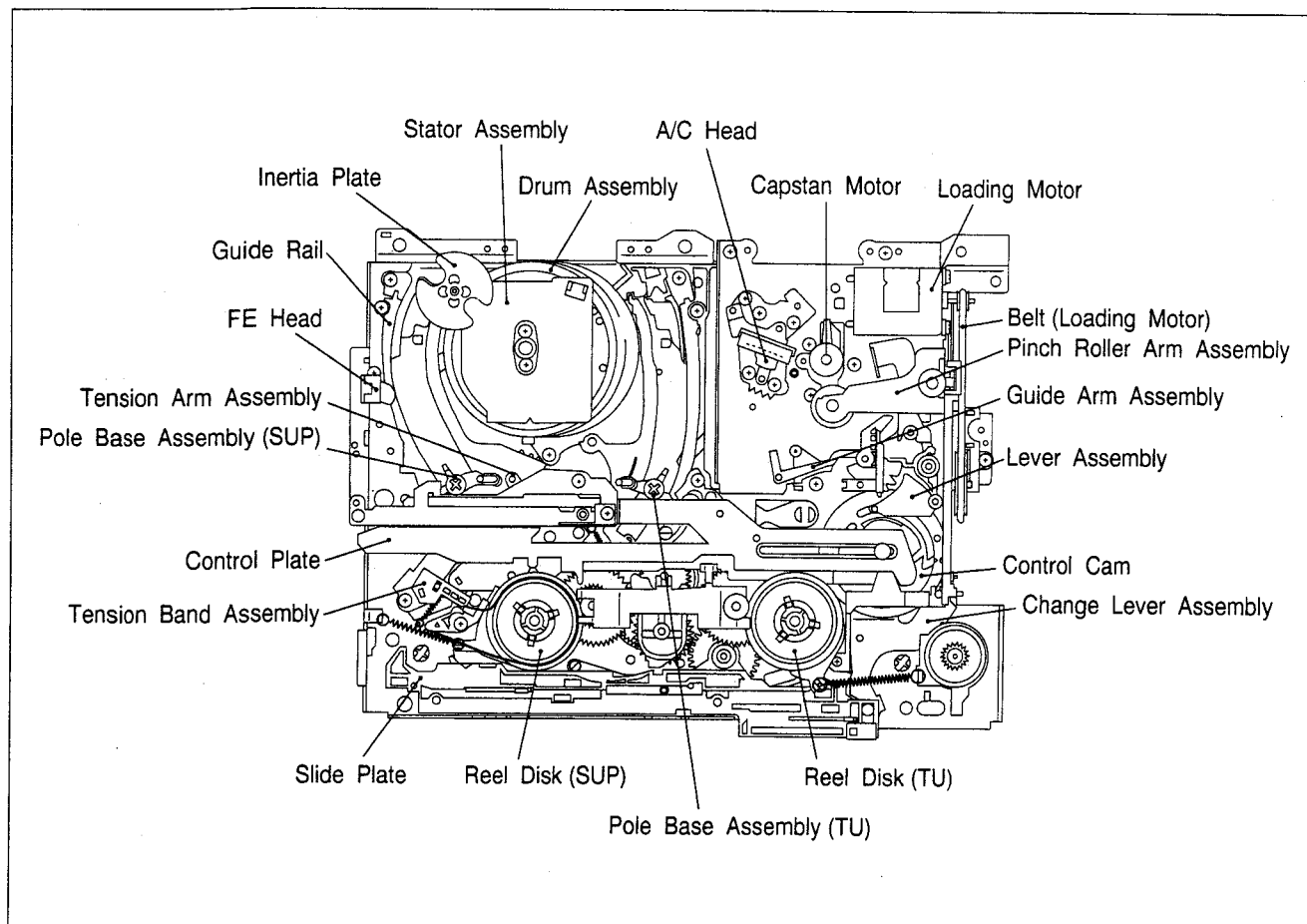


Fig. 2-2-1 Top view of mechanism

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable, but usually not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brush can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a finemesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol. It is recommended to also clean the tape tension posts and capstan.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke, as this may damage the heads.

2.2.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

- (1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-2-1 for the types of oil or grease to be used.

Type	Name	Serial No.	Symbols on the dis-assembly diagrams
Grease	Maltemp SH-P	KYODO-SH-P	AA
Oil	Cosmohydro HV56	COSMO-HV56	BB

Table 2-2-1 Grease and oil used for the unit

- (2) Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

NOTE : *Stir grease that has been stored for an extended period.*

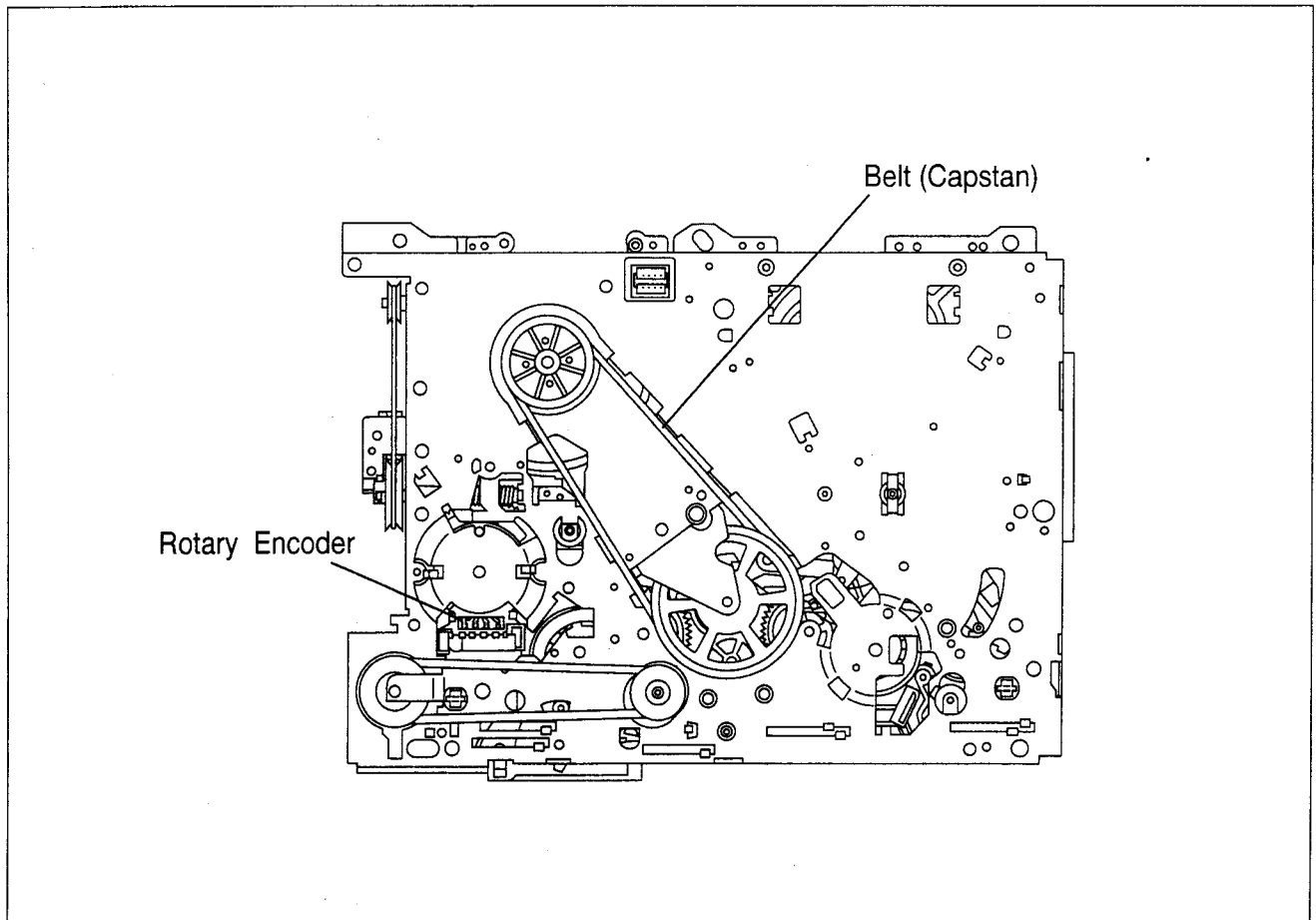


Fig. 2-2-2 Bottom view of mechanism

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Drum assembly	★ ○	○
	A/C head	★ ○	★ ○
	Lower drum motor assembly	★	★ ○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Reel disk (supply, take up)		○
	Clutch unit (supply, take up)		○
	Worm gear assembly		○
	Control plate		○
	Slide plate		○
Other	Brush	★ ○	★ ○
	Tension band assembly	○	○
	Rotary encoder		○

★ : Cleaning

○ : Inspection or Replacement if necessary

Table 2-3-1

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation. The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts and cassette housing assembly have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

- (1) Turn the loading motor belt by hand.
- (2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

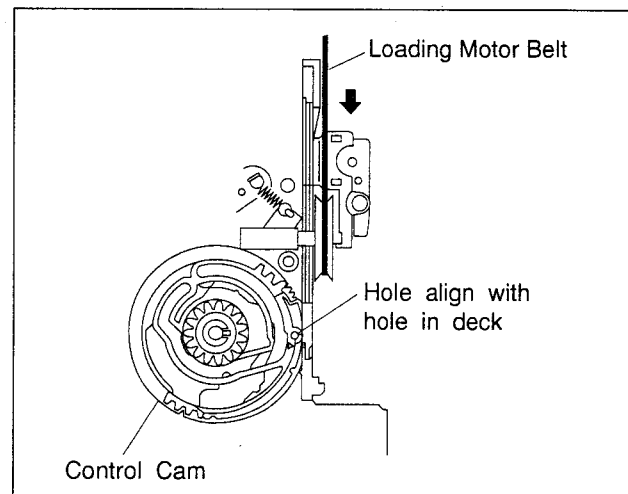


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm Assembly

- (1) Remove the slit washer.
- (2) Lift the pinch roller arm assembly, and pull out it while pushing the pinch plate toward outside.

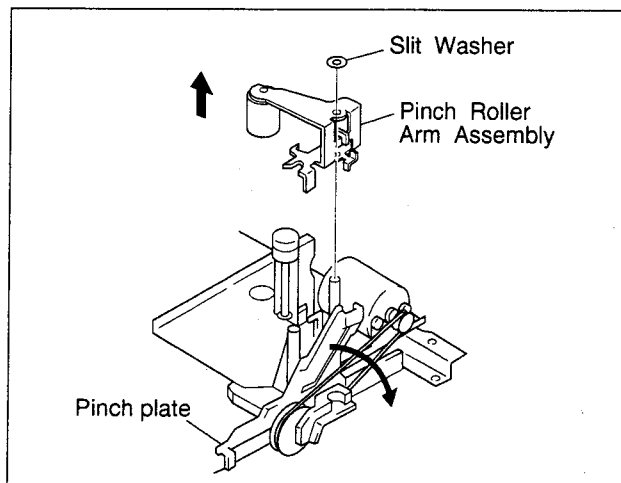


Fig.2-5-1

2.5.2 A/C Head

1. Removal

- (1) Take out the 2 screws (A).
- (2) Remove the A/C head with head base.

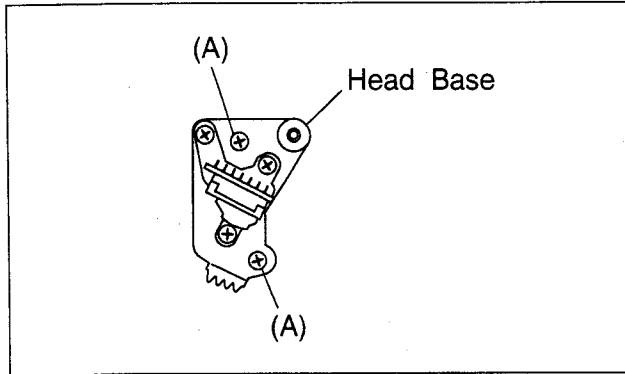


Fig.2-5-2

- (3) When replacing the A/C head only, remove the 3 screws (B), use care not to misplace the 3 springs.

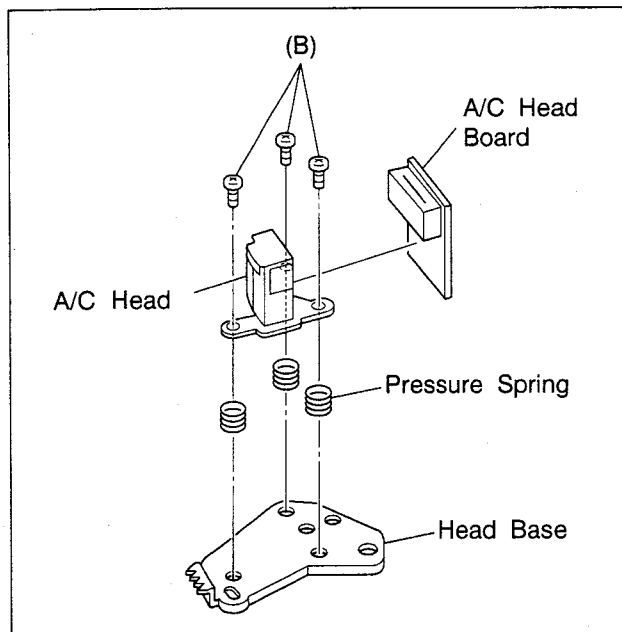


Fig.2-5-3

2. Installation

- (1) Temporarily set the A/C head height as indicated in Fig. 2-5-4.

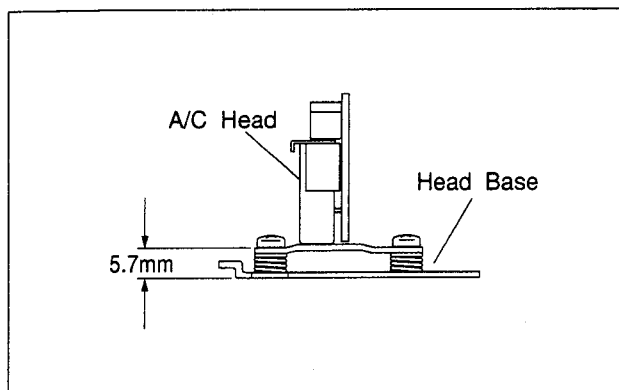


Fig.2-5-4

NOTES:

- It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.
- Perform compatibility adjustments after electrical adjustments.

2.5.3 Pinch Plate

1. Removal

- (1) Disengage the 2 claws, then remove the pinch plate.

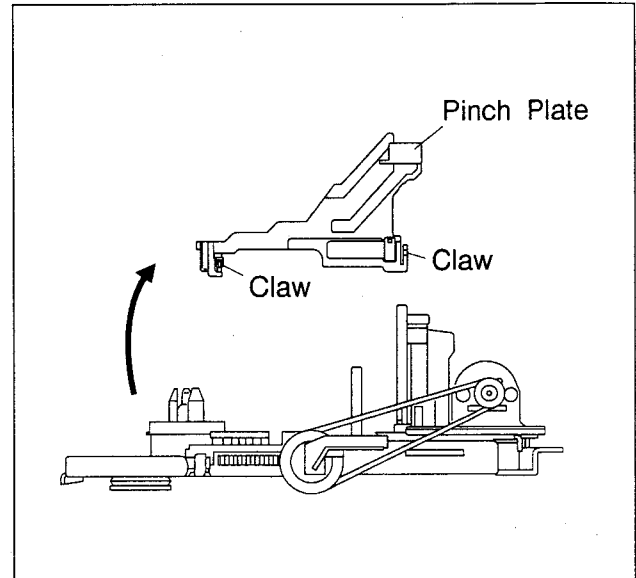


Fig.2-5-5

2. Installation

- (1) When installing the pinch plate, align rack of the pinch plate and triangle mark of the control cam as indicated in Fig.2-5-6.

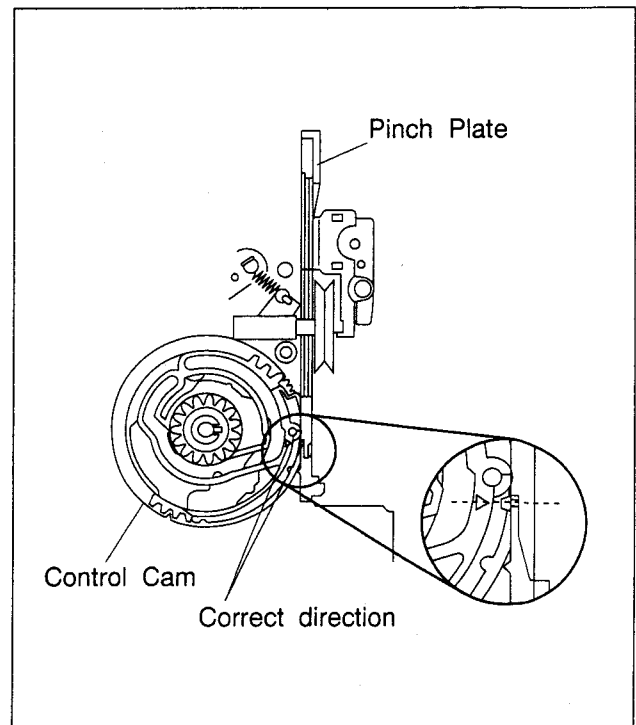


Fig. 2-5-6

2.5.4 Loading Motor

- (1) Remove the belt from the worm gear assembly.
- (2) Take out the 2 screws (A) and then remove the loading motor.

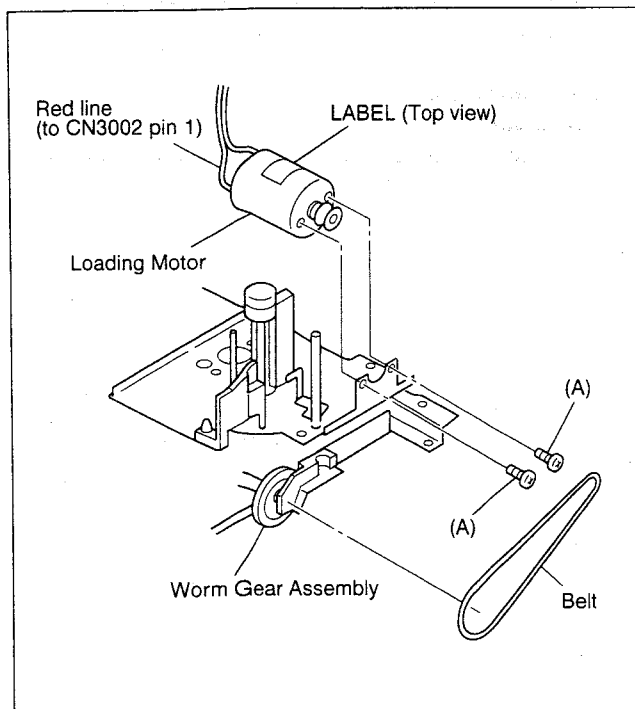


Fig.2-5-7

NOTE: When installing the loading motor, hold it so that the label faces upward. Also take care with the wire colors.

2.5.5 Lever Assembly, Sub Deck Assembly, Capstan Motor

- (1) First remove the belt from the rear side (capstans) of the mechanism assembly.

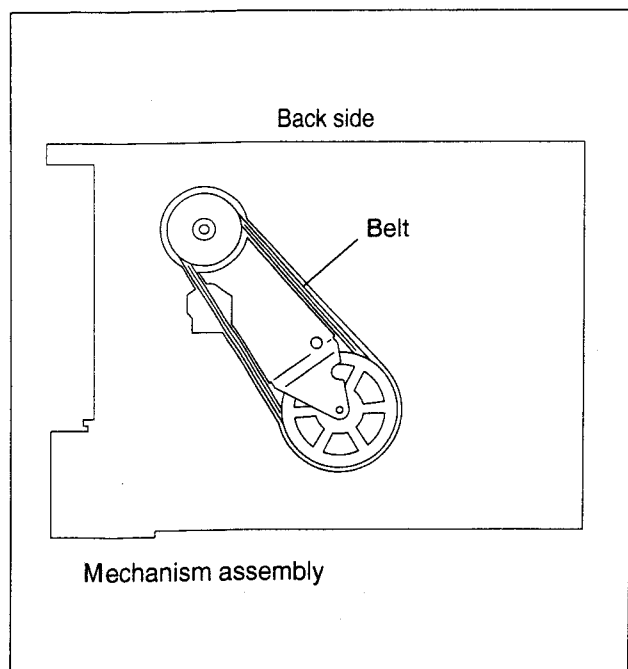


Fig.2-5-8

- (2) Take out the slit washer, then remove the lever assembly.
- (3) Take out the 3 screws (A), then remove the capstan motor and sub deck assembly together.

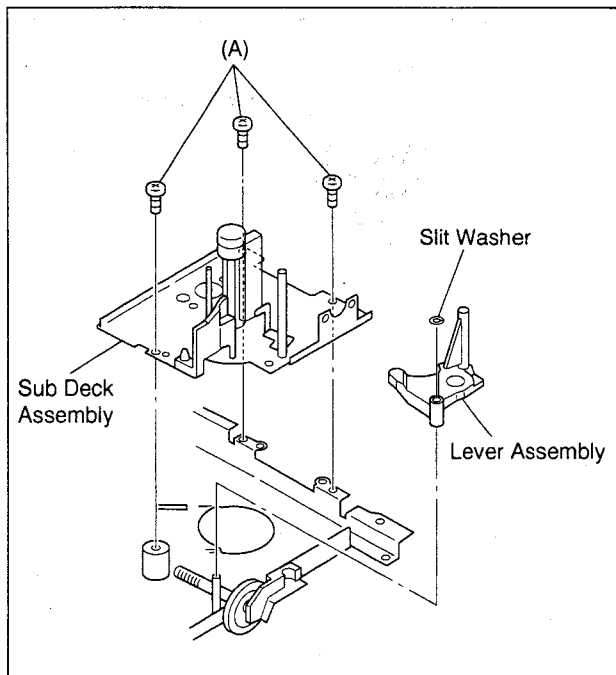


Fig.2-5-9

- (4) Take out the 3 screws (B), then remove the capstan motor from the sub deck assembly.

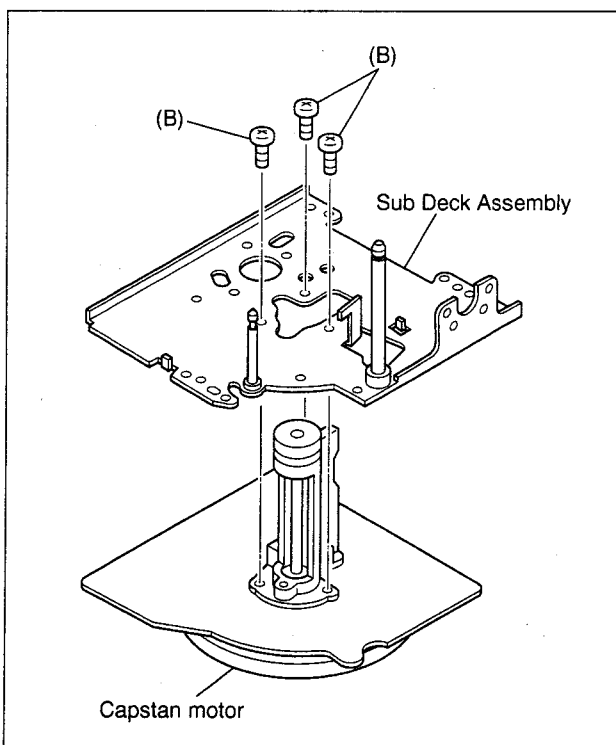


Fig.2-5-10

NOTE: Before removing the capstan brake assembly, it is required to first remove the worm gear assembly and the control cam.

2.5.6 Control Bracket

- (1) Take out the screw (A) and screw (B).
- (2) Remove the control bracket.

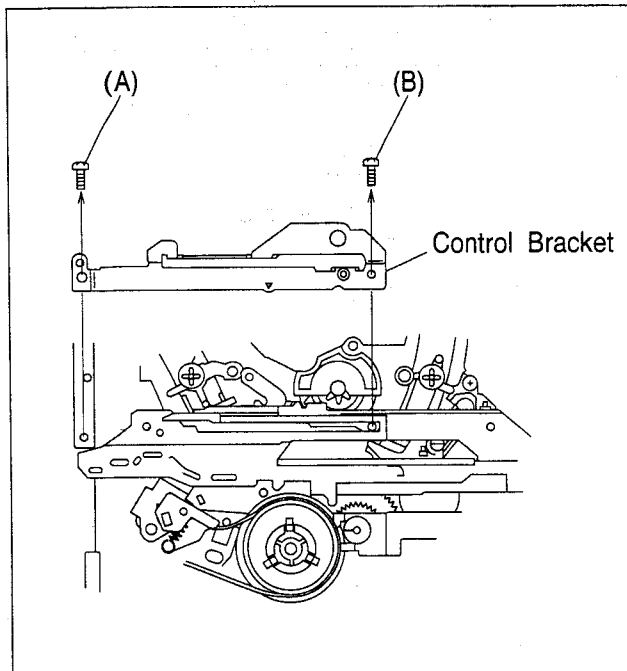


Fig.2-5-11

2.5.7 Reel Disk (Take up)

- (1) Take out the slit washer.
- (2) Remove the reel disk (take up).

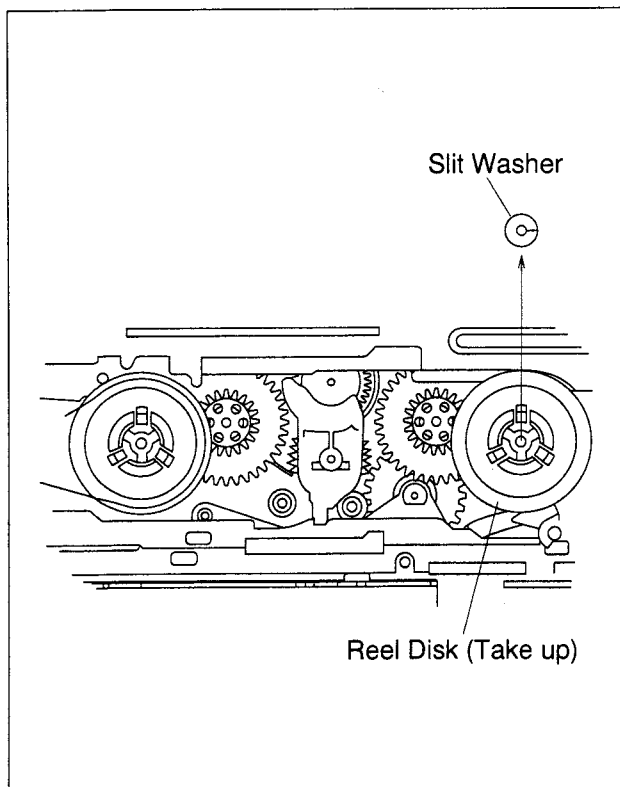


Fig.2-5-12

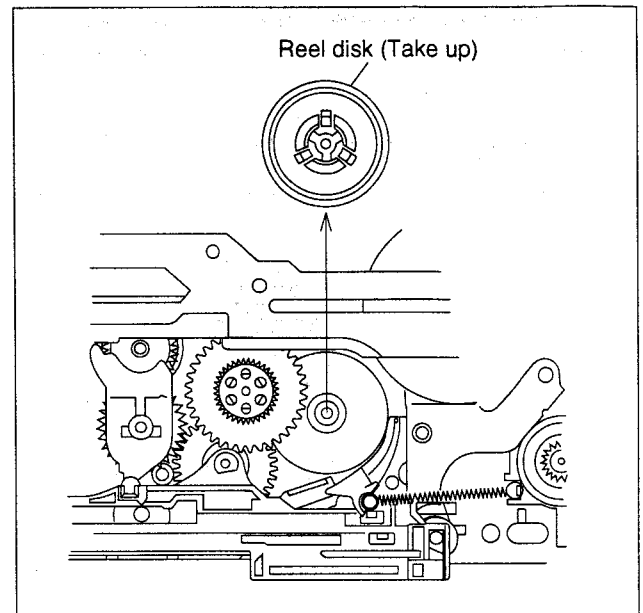


Fig.2-5-13

2.5.8 Control Plate

- (1) Take out the slit washer, disengage the 2 hooks while lifting the control cam side of the control plate, and remove the control plate.

NOTE 1 : After removing the control plate, be careful not to turn the mechanism assembly upside down. Otherwise, parts such as the idler lever and clutch unit (take up) may slip out.

NOTE 2 : After removing the control plate, the parts shown in the following figure can be removed. The encircled numbers indicate the removal sequence.

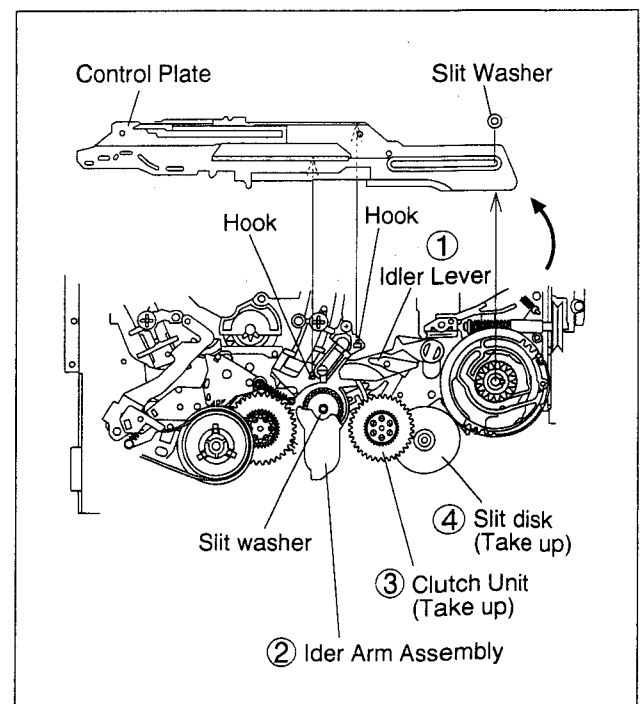


Fig.2-5-14

2.5.9 Sub Brake Assembly (Take up), Control Cam

- (1) Disengage the spring of the sub brake assembly (take up) and, while pushing the hook in the direction of the arrow, remove the sub brake assembly (take up) upward.
- (2) While pushing the claw in the disengaging direction, remove the control cam.

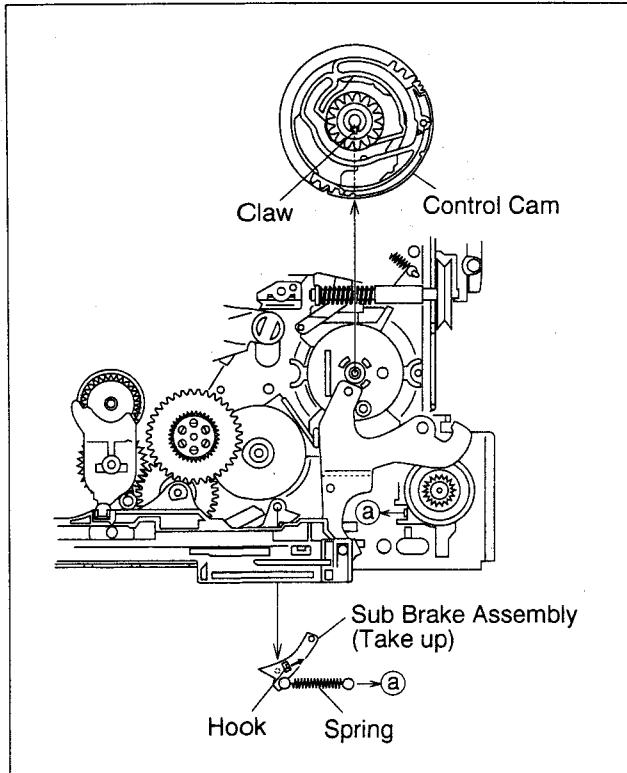


Fig.2-5-15

2.5.10 Slide Plate

- (1) Disengage the 7 claws on the back side of the mechanism assembly by following the order from the claw on one end to that on the opposite end, then remove the slide plate.

NOTE: After removing the slide plate, it is possible to remove the main brake assembly (take up) and the change arm assembly.

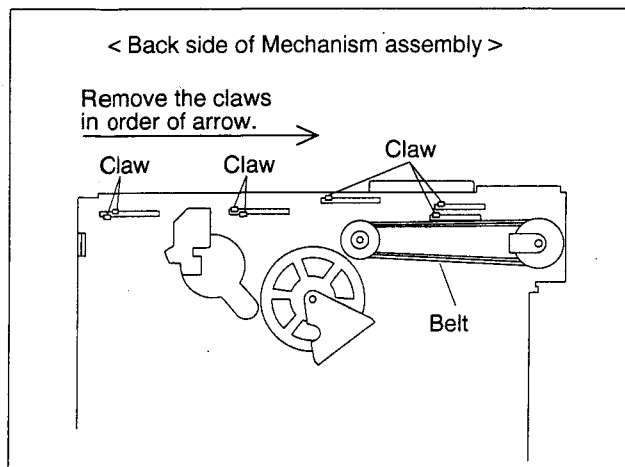


Fig. 2-5-16

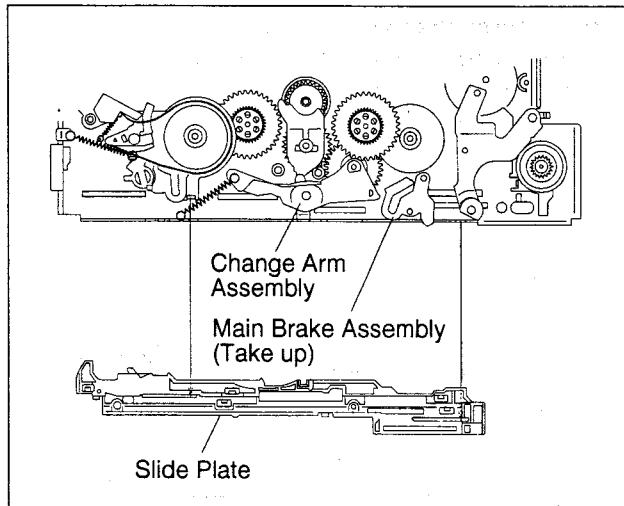


Fig. 2-5-17

2.5.11 Change Lever Assembly, Rotary Encoder

- (1) Slide the change lever assembly in the direction of the arrow and remove.
- (2) While pushing the claws on both sides in the disengaging directions, take out the rotary encoder.
- (3) When attaching the rotary encoder, position it so that the alignment markings face each other as shown in Fig. 2-5-18, then attach the rotary encoder.

NOTE 1: Before removing the change lever assembly, it is required to remove the belt (Fig. 2-5-16).

NOTE 2: Take care of the cassette gear, which is disengaged at the same time as the change lever assembly is removed.

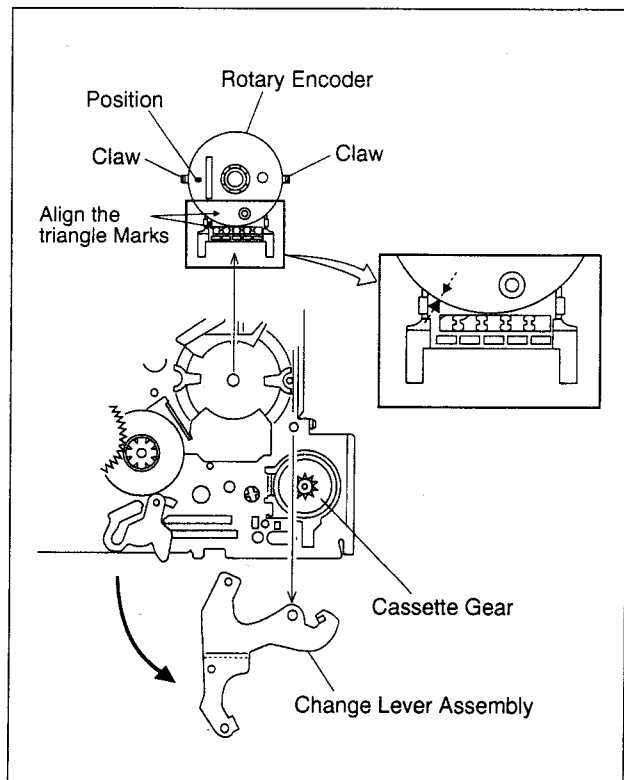


Fig. 2-5-18

2.5.12 Tension Arm Assembly, Tension Band Assembly, Reel Disk Assembly (Supply), Sub Brake Assembly (Supply), Clutch Unit (Supply), Take up Lever

- (1) Disengage spring (a) of the sub brake assembly (supply) from the hook.
- (2) Disengage the spring (c) from the hook.
- (3) Take out the slit washer, and remove the tension arm assembly. Also remove the tension band assembly by disengaging the claw.
- (4) Take out the slit washer, and remove the reel disk assembly (supply).

- (5) While pushing the claw in the disengaging direction, remove the sub brake assembly (supply).
- (6) Remove the clutch unit (supply).
- (7) Remove the take up lever assembly.

NOTE 1: When attaching the tension arm assembly, be sure to adjust the phase of the tension arm lever.

NOTE 2: After removing the clutch unit (supply), it is possible to remove the slit disk (supply) and the main brake assembly (supply).

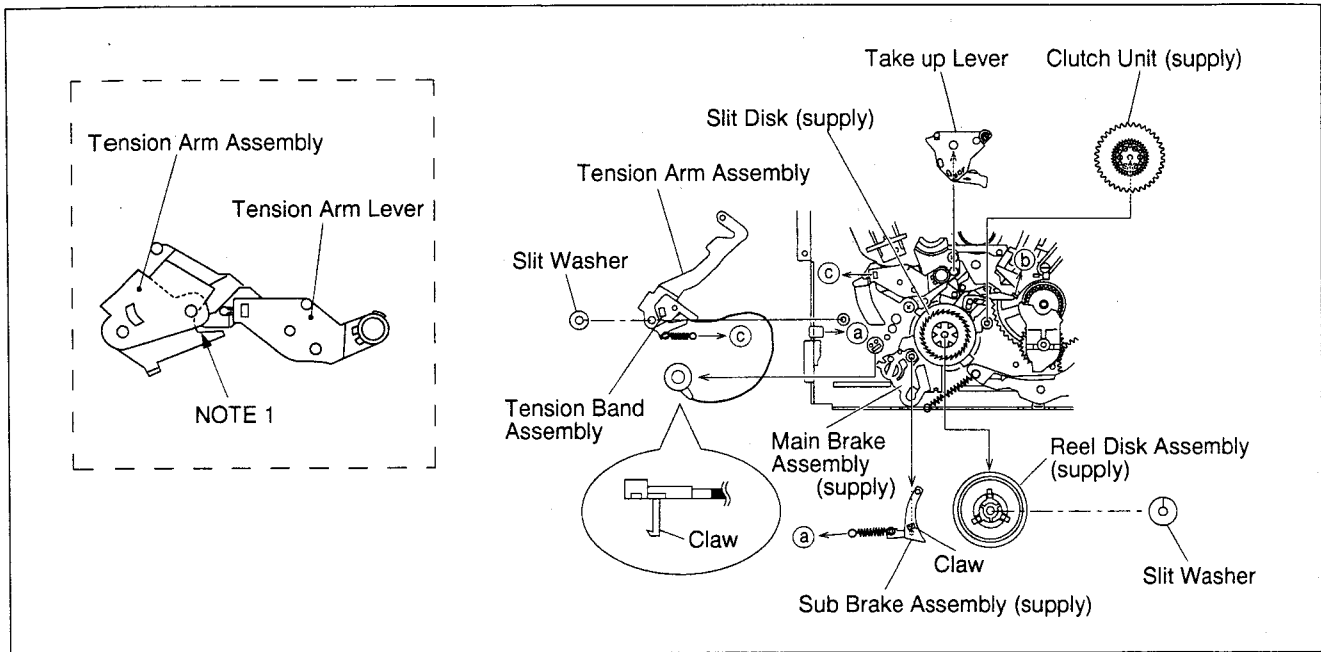


Fig. 2-5-19

2.5.13 Take up Head, Tension Arm Lever

- (1) Remove the take up head and tension arm lever.

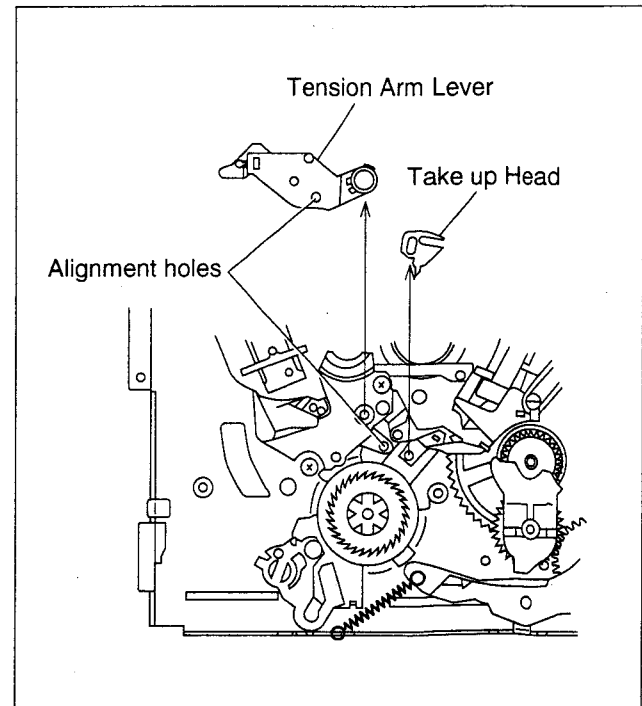


Fig.2-5-20

2.5.14 Guide Rail

- (1) Take out the 5 screws (A) and 1 screw (B).
- (2) By expanding the rails on the outer sides of the guide rail, remove the 2 pole base assemblies (supply, take up).
- (3) Disengage the 4 claws and remove the guide rail.

NOTE : Before removing the guide rail, it is required to remove the drum assembly.

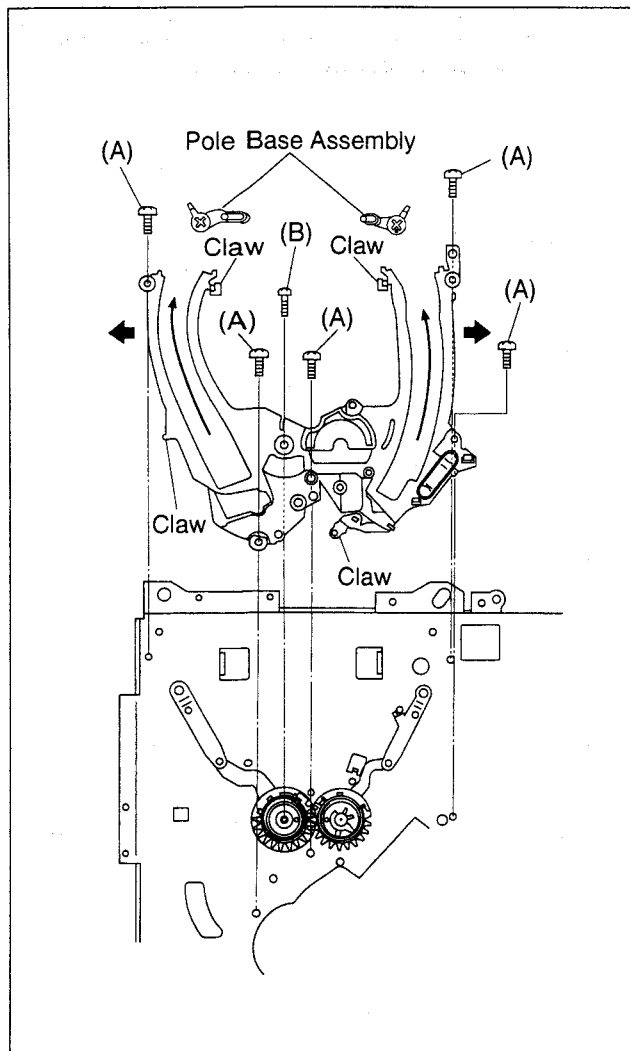


Fig. 2-5-21

2.5.15 Stator Assembly

- (1) Unplug the flat cable.
- (2) Take out the 2 screws (A).
- (3) Remove the stator assembly by lifting it in the direction of the arrow (straight upward).

NOTE 1: Be careful not to lose the brush and spring.

NOTE 2: After attaching, always perform "3.2.1 PB SWITCHING POINT ADJUSTMENT" in "ELECTRICAL ADJUSTMENTS".

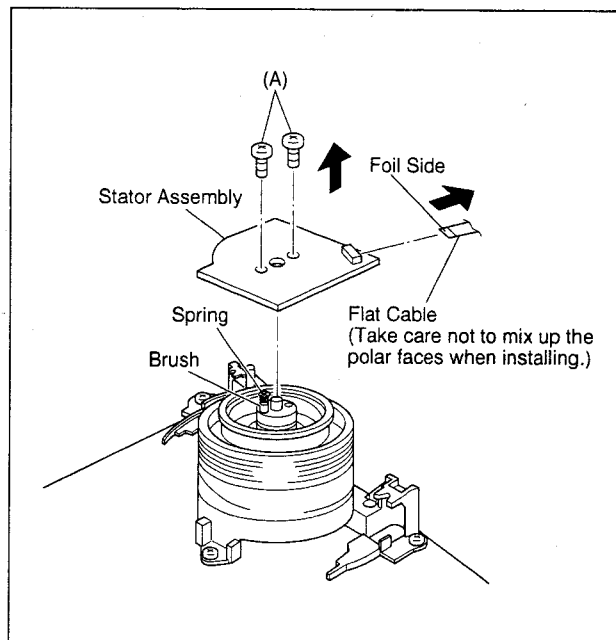


Fig. 2-5-22

2.5.16 Rotor Assembly

- (1) Remove the stator assembly.
- (2) Take out the 2 screws (B) and then remove the rotor assembly.

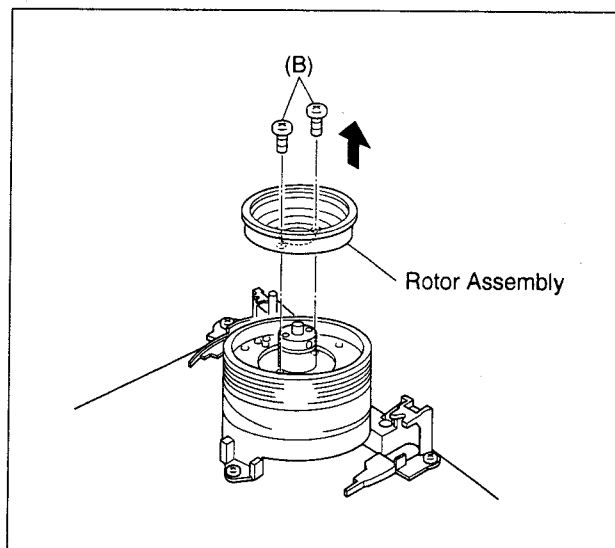


Fig.2-5-23

NOTE : When attaching the rotor assembly, make sure that the phases are matched correctly. Otherwise, normal image cannot be displayed. (Fig. 2-5-24)

- (3) Set the phases of the upper drum assembly and rotor assembly as shown in Fig. 2-5-24.
- (4) Align hole (a) of the upper drum assembly and hole (b) of the rotor assembly, then tighten the 2 screws (B).

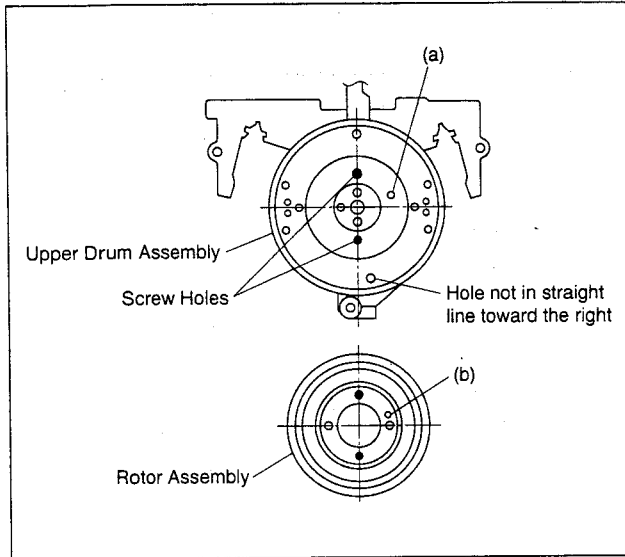


Fig. 2-5-24

2.6 INSTALLATION OF MAIN PARTS (Mechanism Phase Alignment)

2.6.1 Before Assembly

The mechanism of this model is closely related with the rotary encoder and the system control circuitry. The connection between the rotary encoder and control cam determines the movement of all mechanical parts including the slide plate, loading arm assembly, control plate and brake. If these parts are not installed in the correct positions, operations such as loading and unloading will not be possible. Installation of the main parts (mechanism phase alignment) should be performed exclusively in the mechanism operation mode, as with the operations in the previous sections.

2.6.2 Loading Arm Assemblies (Supply, Take up)

- (1) Attach the loading arm assembly (supply) and loading arm assembly (take up) so that the alignment markings on their gears face each other and the holes on their arms are respectively aligned with the holes on the main deck.
- (2) Attach the guide rail, attach the pole base assemblies onto the extremities of the arms, then perform the unloading operation so that the pole base assemblies come to the most forward positions.

NOTE: When attaching the pole base assemblies (supply/take up), temporarily tighten the 3 screws other than the 2 screws on the sides of the guide rail extremities so that the parts do not slip out.

- (3) Attach the surrounding parts of the guide rail.

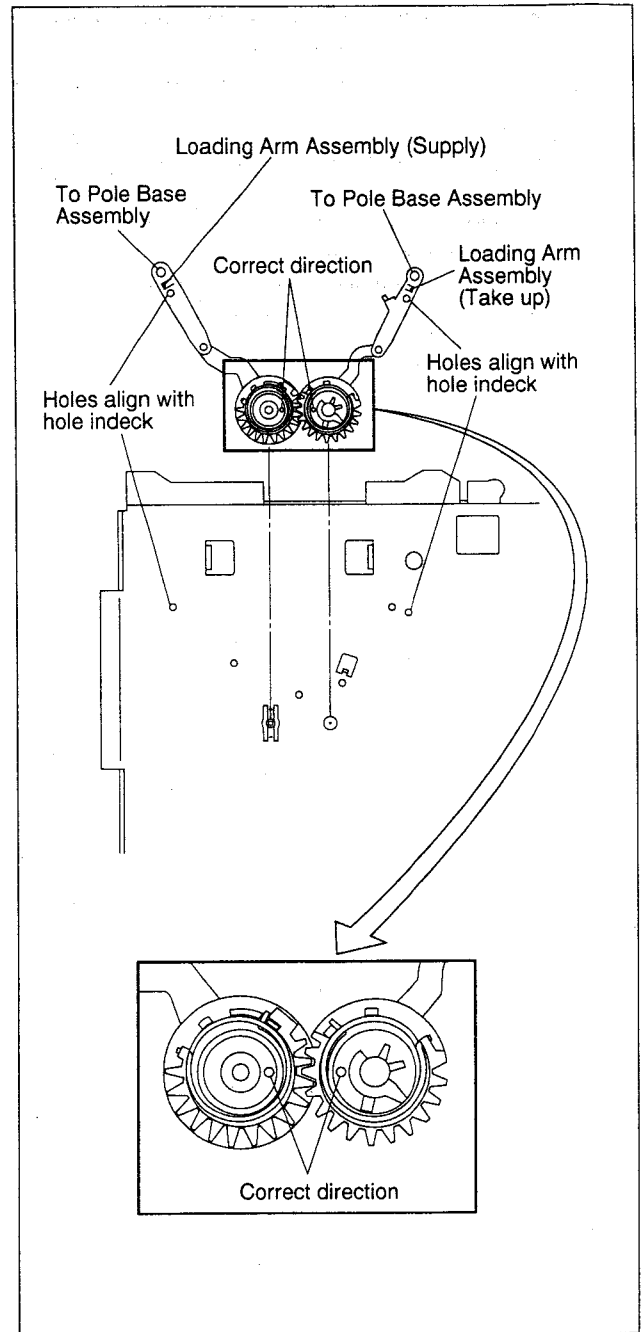


Fig. 2-6-1

2.6.3 Rotary Encoder, Change Lever Assembly, Control Cam

- (1) To attach the rotary encoder, align the triangular alignment markings and push the rotary encoder in until the claws are locked.
- (2) To attach the change lever assembly, align its holes with the holes on the main deck assembly. As the change lever assembly is projected on the rear side of the main deck assembly, take care that the assemblies are not separated from each other.
- (3) To attach the control cam, align its holes with the holes on the main deck assembly by pushing the capstan brake assembly downward.

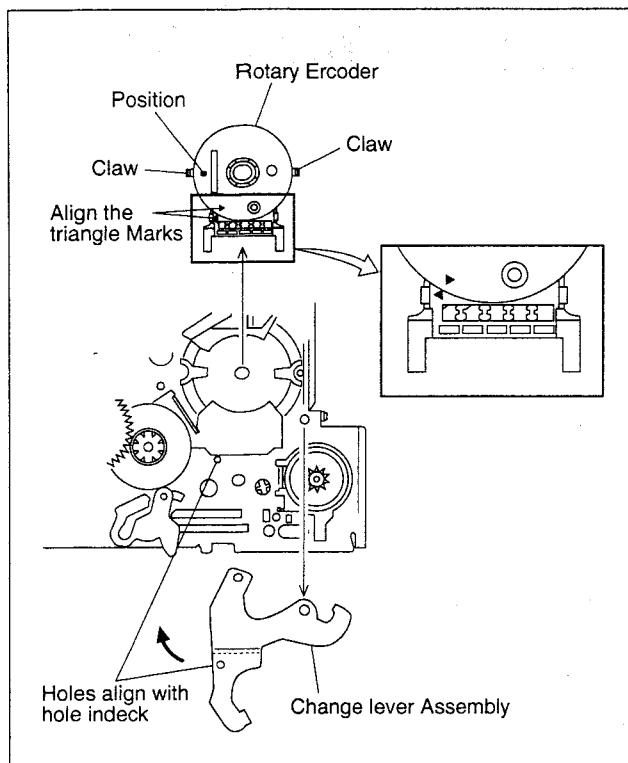


Fig. 2-6-2

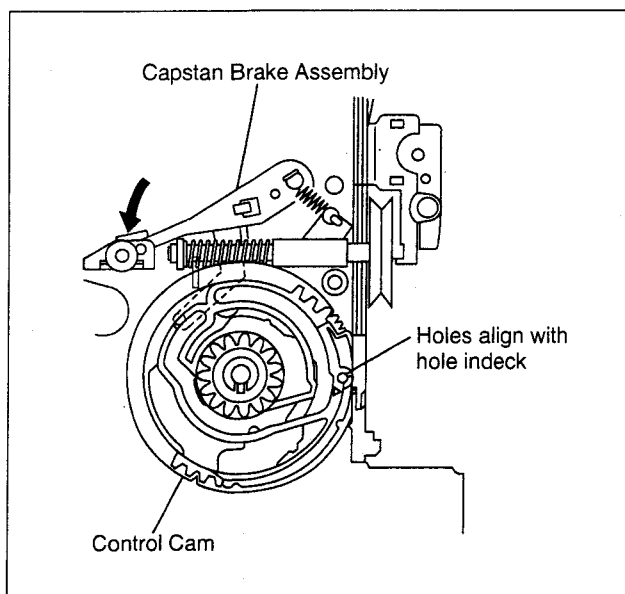


Fig. 2-6-3

2.6.4 Slide Plate

- (1) While pushing down the main brake assemblies (supply, take up) so that they come in contact with the extremity of the main deck assembly, attach the slide plate so that its alignment holes are aligned with the holes of the main deck assembly.

NOTE: Free the brake of the sub-brake assembly (supply) during installation.

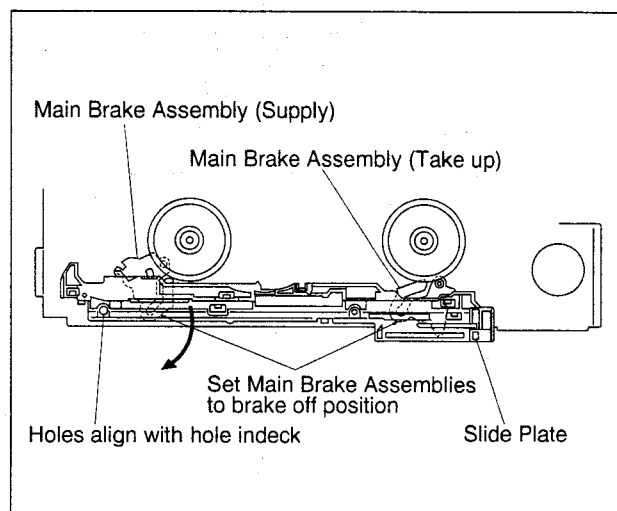


Fig.2-6-4

2.6.5 Control Plate

- (1) Attach the control plate by aligning the 2 alignment holes on the control plate with the alignment holes on the main deck assembly as well as the alignment holes on the take up lever. As the take up lever is pulled by a tension spring, use a pair of tweezers or similar too to align the holes.
- (2) After attaching the control plate, lock it with the slit washer and control bracket.

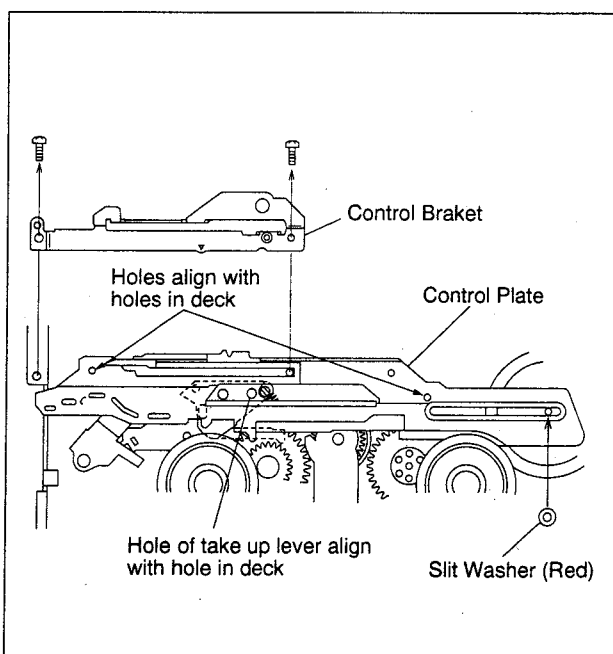


Fig. 2-6-5

2.7 MECHANISM TIMING CHART

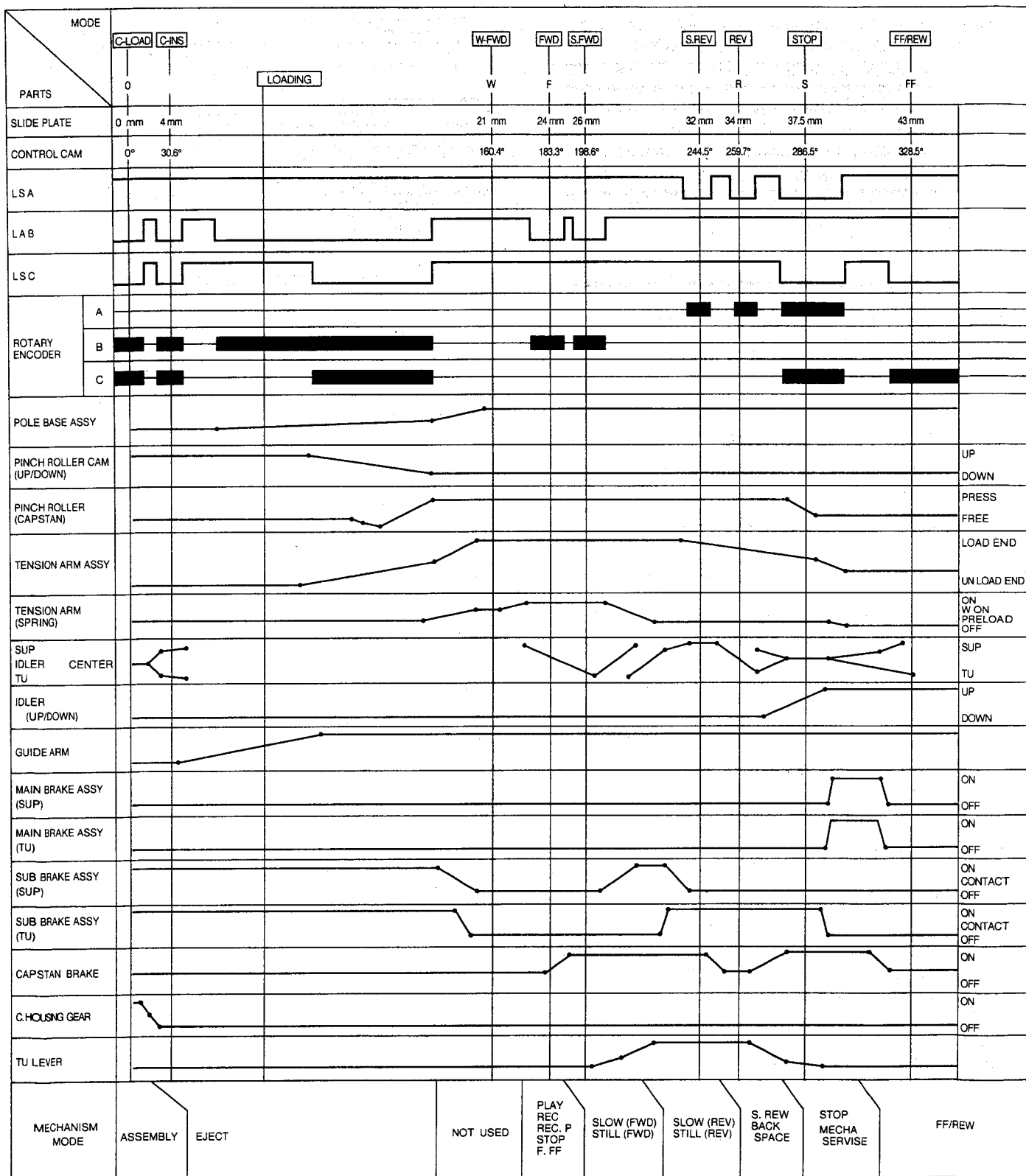


Table 2-7-1

2.8 COMPATIBILITY ADJUSTMENT

- NOTES:**
- Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when the audio control head, drum assembly or any part of the tape transport system has been replaced.
 - To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape ready to be used for checking the initial tape running behavior (for recording and playback).

2.8.1 Checking/Adjustment of FM Waveform Linearity

Signal	(A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point (D)		• TP106 (PB FM) [Main board]
External trigger (E)		• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)		• Guide roller
Specified value (G)		• Flat V.PB FM waveform
Adjustment tool (H)		• Hexagonal wrench (1.25 mm) • Roller driver [PTU94002]

- (1) Play back the alignment tape (A1).
- (2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-8-1.)
- (5) Using a hexagonal wrench, gently loosen the set screw at the bottom of the pole base assembly. (Be careful not to loosen it too much.) (See Fig. 2-8-2.)
- (6) Reduce the V.PB FM waveform while pressing the channel buttons (+, -) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig. 2-8-3.)
- (7) Then play back the alignment tape (A2) and make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
- (8) After completing adjustment, tighten the set screw at the bottom of the pole base assembly. (Be careful not to tighten it too much.) (See Fig. 2-8-2.)
- (9) Unload the cassette tape once, play back the alignment tape (A2) again and confirm the V.PB FM waveform.

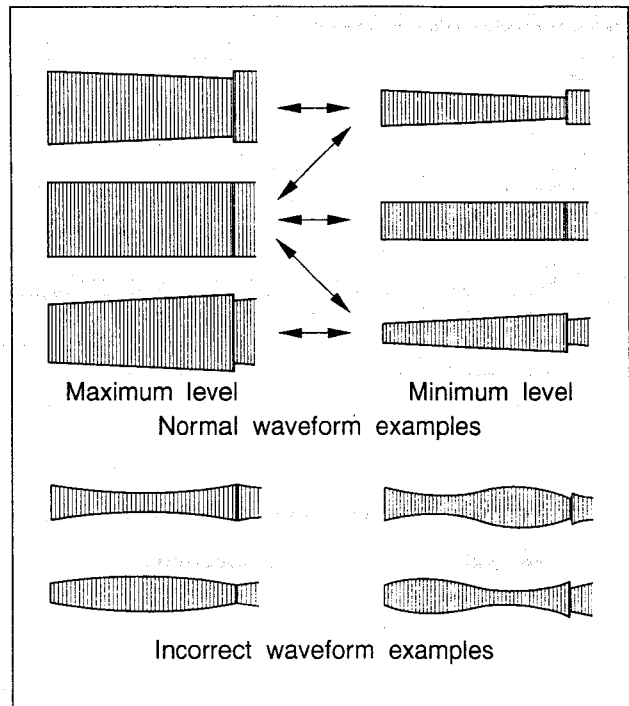


Fig. 2-8-1

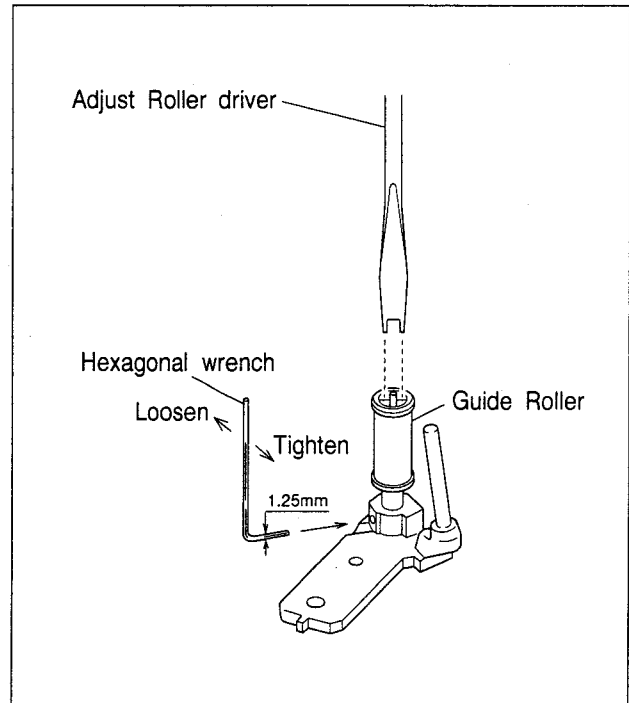


Fig. 2-8-2

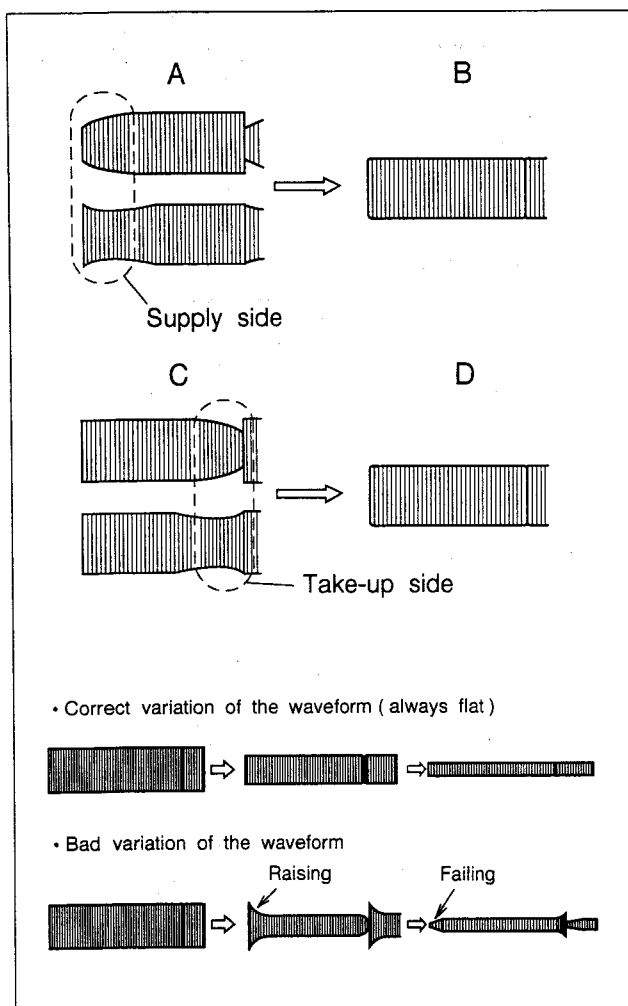


Fig. 2-8-3

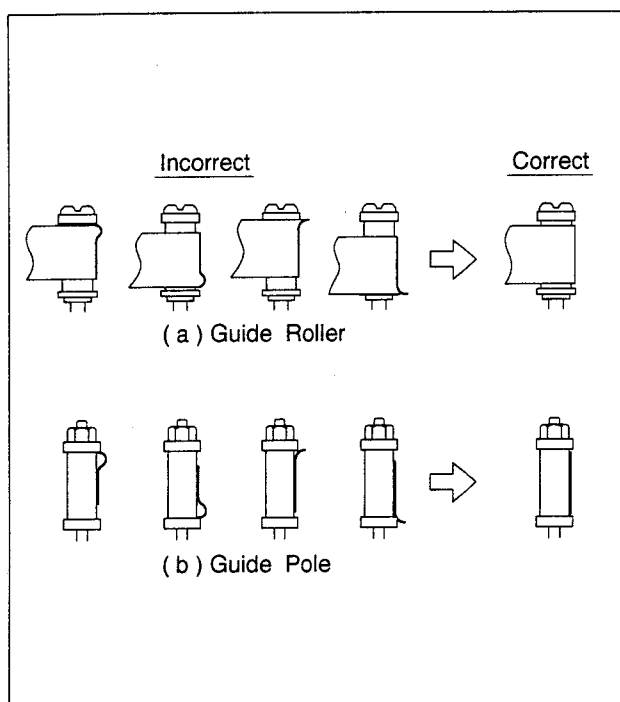


Fig. 2-8-4

2.8.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

NOTE : • Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig. 2-5-4.)

Signal	(A)	• Alignment tape [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point (D1)		• AUDIO OUT terminal
(D2)		• TP4001 (CTL. P) [Main board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• A/C head
Specified value	(G)	• Maximum waveform

- (1) Play back the alignment tape (A).
- (2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

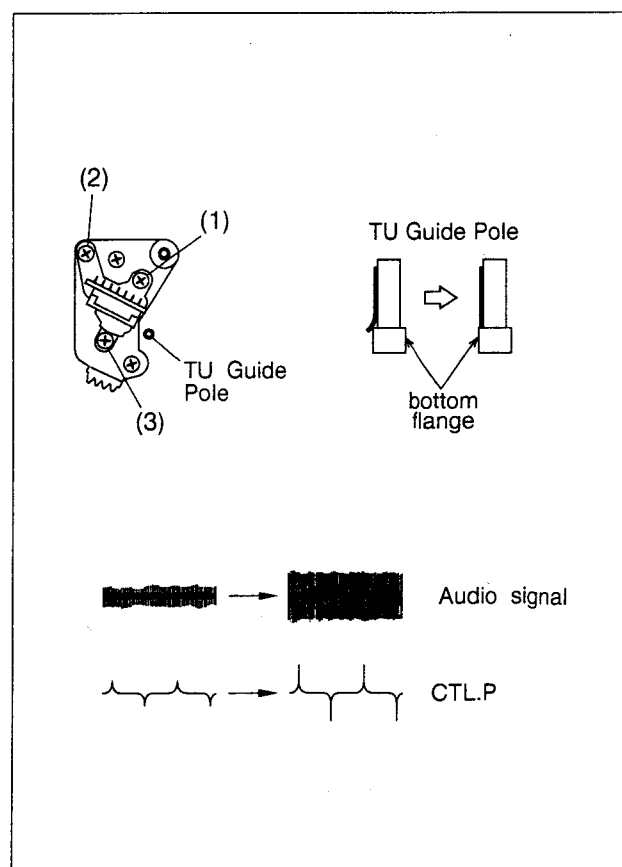


Fig. 2-8-5

2.8.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

Signal	(A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point (D)		• TP106 (PB FM) [Main board]
External trigger (E)		• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)		• A/C head base
Specified value (G)		• Maximum V.PB FM waveform
Adjustment tool (H)		• A/C head positioning tool [PTU94010]

- Play back the alignment tape (A1).
- Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
- Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- Loosen screws (4) and (5) so that the A/C head positioning tool is set as indicated in Fig. 2-8-6.
- Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the first peak point position of the V.PB FM waveform output level. Then tighten the screw (4) temporarily.
- Then play back the alignment tape (A2).
- Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
- If it is not at maximum, loosen the temporarily tightened screw (4) and turn the A/C head positioning tool to bring the audio control head to a position around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

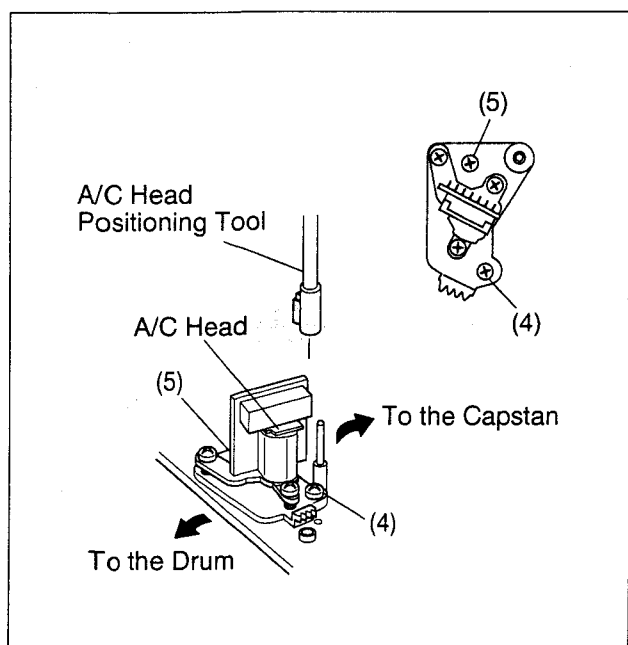


Fig. 2-8-6

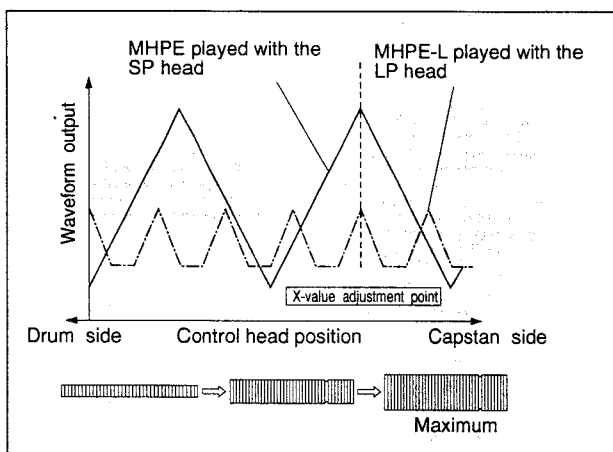


Fig. 2-8-7

2.8.4 Checking/Adjustment of the Standard Tracking Preset

NOTE : When using the Jig RCU, set its custom code to match the custom code of the VCR.

Signal	(A)	• Alignment tape [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point (D)		• TP106 (PB FM) [Main board]
External trigger (E)		• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)		• Jig RCU: Code "50"
Specified value (G)		• Maximum V.PB FM waveform

- Play back the alignment tape (A).
- Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
- Confirm that the automatic tracking operation is completed.
- Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. Adjustment is completed unless the VCR enters the eject mode.
- If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

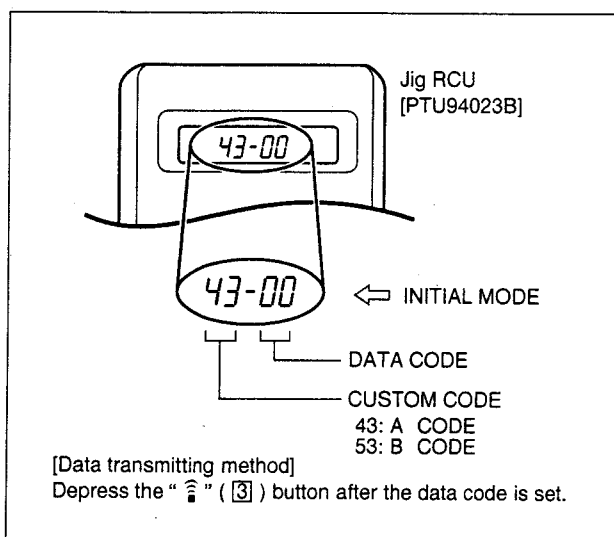


Fig. 2-8-8

2.8.5 Checking/Adjustment of the Tension Pole Position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Mechanism assembly: adjust pin
Specified value	(G)	• 29 - 46 gf·cm

- (1) Play back the back tension cassette gauge (A).
- (2) Check that the indicated value on the left side gauge is within the specified value (G).
- (3) If the indicated value is not within the specified value, perform the adjustment in a following procedure.
 - 1) Set the VCR to the mechanism service mode. (See 1.5 MECHANISM SERVICE MODE.)
 - 2) Set the VCR to the play back mode and turn the adjust pin using the flat-blade screwdriver, etc. by paying attention not to come into contact with the 2.5 mm dia. Pole. (See Fig 2-8-9.)

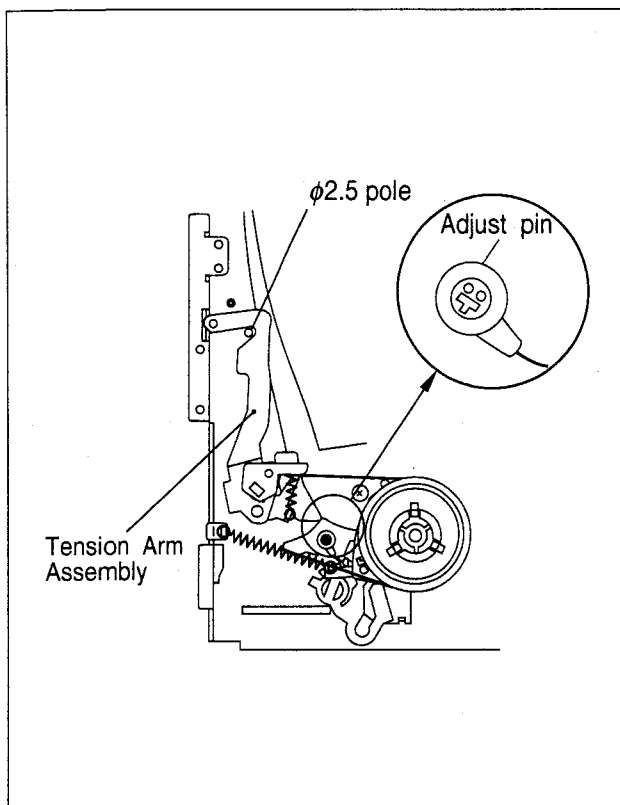


Fig. 2-8-9

SECTION 3 ELECTRICAL ADJUSTMENT

3.1 PRECAUTION

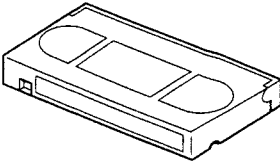
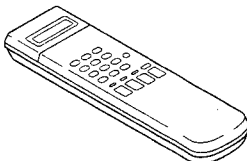
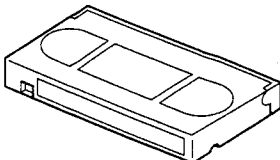
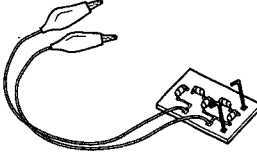
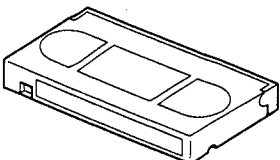
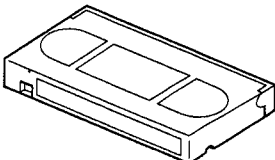
The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.

In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, set.) carelessly.

3.1.1 Required test equipments

- ① Colour television or monitor
- ② Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- ③ Frequency counter
- ④ Signal generator: RF/IF sweep/marker
- ⑤ Signal generator: PAL colour bar, staircase
- ⑥ Recording tape (VHS tape/S-VHS tape/D-VHS tape)
- ⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, staircase, PAL) MHPE	Jig RCU PTU94023B
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, staircase, NTSC) MHP	Alignment tape (D-VHS, STD, colour bar) MD-1
	

3.1.3 Colour bar signal, colour bar pattern

● PAL colour bar signal

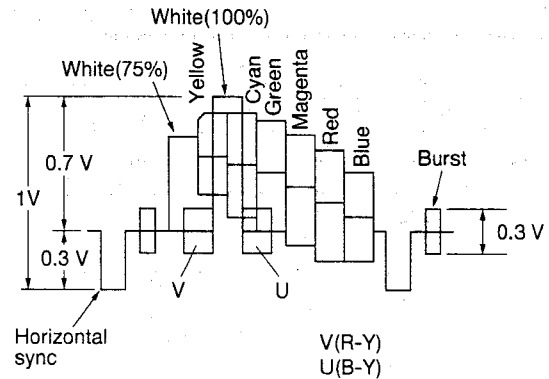


Fig.3-1-1 PAL colour bar signal waveform

● PAL colour bar pattern

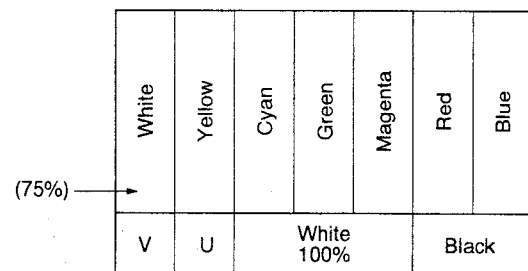


Fig.3-1-2 PAL colour bar pattern

3.1.4 Jig RCU

Note: • When using the Jig RCU, set its custom code to match the custom code of the VCR.

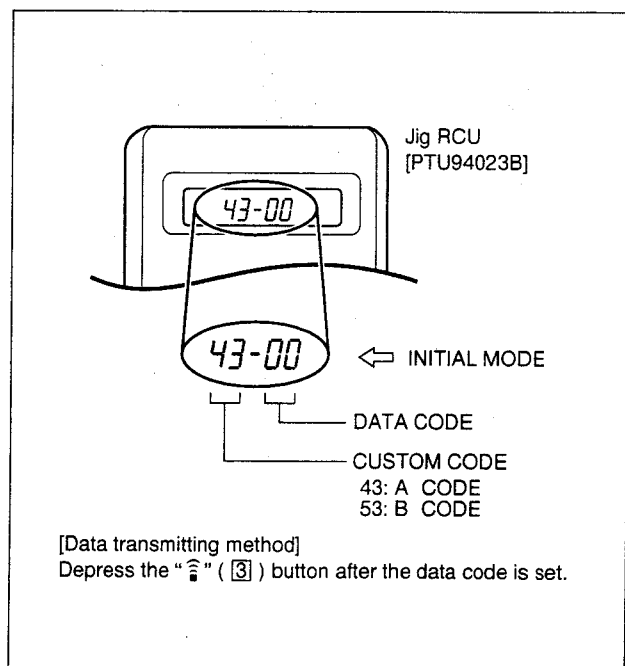


Fig. 3-1-3 Jig RCU

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The Main board assembly and Digital board assembly have EEPROMs for storing the EVR adjustment data and user setups.

- Notes:**
- In the EVR adjustment mode, the value is varied with the channel buttons (+, -). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.
 - When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input. The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- As the counter indication and remaining tape indication are not displayed FDP during the EVR (MAIN) adjustment mode, check them on the TV monitor screen.
- When performing the EVR (MAIN) / EVR (DIGITAL) adjustment, confirm that the FDP / OSD indication is changed to the EVR mode, as shown below.

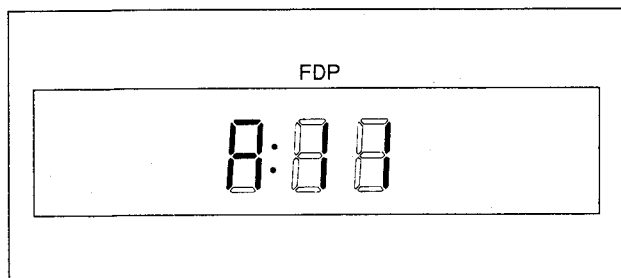


Fig. 3-1-4 EVR [MAIN] mode

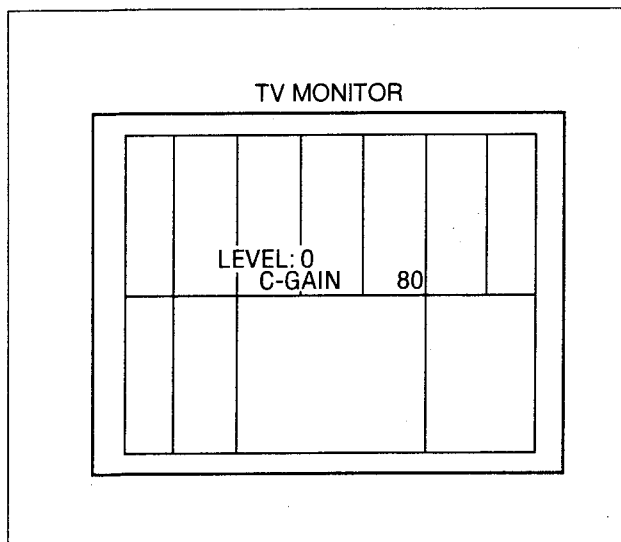


Fig. 3-1-5 EVR [DIGITAL] mode

3.1.6 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- Notes:**
- In the Signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.
 - Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.

B.E.S.T. (D.S.P.C.)	OFF
Picture control (Smart picture)	Normal (Natural)
TBC	ON
Digital 3R	ON

3.2 SERVO CIRCUIT

- Note:**
- Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.

3.2.1 Switching point

Signal	(A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal • TP106 (PB FM)
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• Jig RCU: Code "51" or "52"
Specified value	(G)	• $8.0 \pm 0.5H$ [MHPE] • $7.5 \pm 0.5H$ [MHP]

- (1) Play back the stairstep signal of the alignment tape (A1).
- (2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Adjust tracking by pressing the channel buttons (+, -) so that the V.PB FM waveform becomes maximum.
- (5) Transmit the code (F) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
- (6) Set the VCR to the stop mode or eject mode.
- (7) Play back the stairstep signal of the alignment tape (A2).
- (8) Repeat steps (2) to (6).

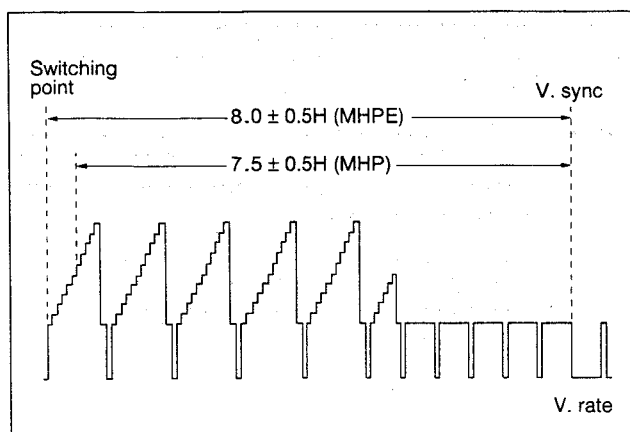


Fig. 3-2-1 Switching point

3.2.2 D-VHS switching point

Signal	(A)	• Alignment tape [MD-1]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP6006 (PB DATA) [Pre/Rec board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• Jig RCU: Code "51" or "52"
Specified value	(G)	• $230 \pm 20 \mu\text{sec}$

- (1) Play back the alignment tape (A).
- (2) Apply the external trigger signal to D.FF (E) to observe the D-VHS envelope waveform at the measuring point (D).
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Adjust tracking by pressing the channel buttons (+, -) so that the envelope output becomes maximum.
- (5) Transmit the code (F) from the Jig RCU to adjust so that the duration from the waveform end (Hi/Low switching point of D.FF) to the rising edge of subcode area becomes the specified value (G).
- (6) Set the VCR to the stop mode or eject mode.

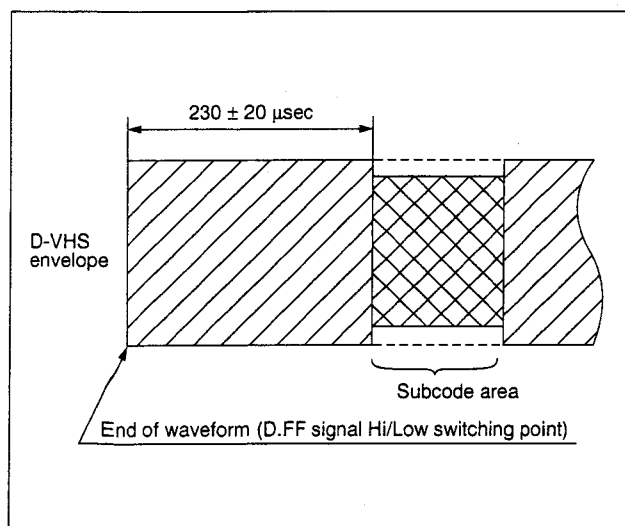


Fig. 3-2-2 D-VHS switching point

3.2.3 Slow tracking preset

Signal	(A)	• Ext. input • Colour bar signal [PAL]
Mode	(B)	• REC (SP/LP) → Slow PB
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code "71" or "72"
Specified value	(G)	• Minimum noise

- (1) Record the colour bar signal in the SP mode, and play back the recorded signal.
- (2) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (3) Set the VCR to the FWD slow mode.
- (4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
- (5) Set the VCR to the Stop mode.
- (6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
- (7) Repeat steps (3) to (6) in the REV slow mode.
- (8) Repeat steps (1) to (7) in the LP mode.

Note: • For FWD slow playback, transmit the "08" code from the Jig RCU to enter the slow playback mode, and transmit the "D0" code for REV slow mode.

3.3 VIDEO CIRCUIT

Note: • Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.

3.3.1 EE Y level

Signal	(A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code "57"
EVR address	(F2)	• A:11 (Press remote controller "1" key twice)
Specified value	(G)	• $1.00 \pm 0.03 \text{ Vp-p}$
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

- (1) Observe the Y OUT waveform at the measuring point (D).
- (2) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
- (3) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
- (4) Adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
- (5) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

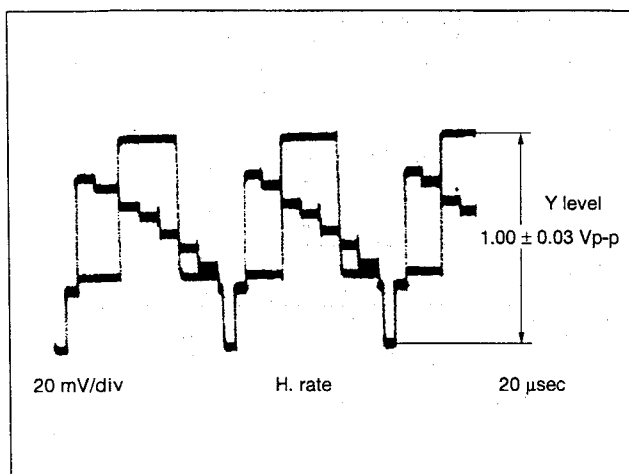


Fig. 3-3-1 EE Y level

3.3.2 SP/LP REC colour level

Signal	(A1) (A2) (A3)	• Alignment tape [MH-2H] • Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2) (B3)	• S-VHS • PB • REC (SP/LP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB FM) • PB colour output of the LPF
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
EVR mode	(F1)	• Jig RCU: Code "57"
EVR address	(F2)	• A:02 (Press remote controller "0" and "2" keys)
Specified value	(G)	• SP: "B" × 125 ± 5% • LP: "B" × 125 ± 5%
Adjustment tool	(H1) (H2) (H3)	• Jig RCU [PTU94023B] • Digit-key remote controller • LPF [PTU93006] (See Fig. 3-3-2.)

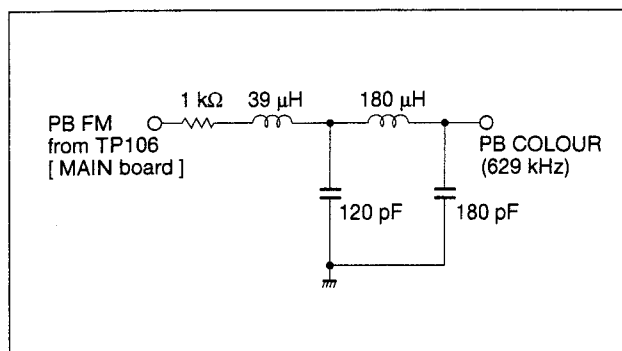


Fig. 3-3-2 LPF

- (1) Connect the adjustment tool (H3) to the measuring point (D1).
- (2) Apply the external trigger signal to D.FF (E) to observe the PB colour waveform at the measuring point.
- (3) Play back the SP colour bar signal of the alignment tape (A1).
- (4) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (5) Adjust tracking by pressing the channel buttons (+, -) so that the PB colour waveform becomes maximum. Make a note of the higher PB colour level as "B" at this time.
- (6) Record the colour bar signal in the S-VHS SP mode, and play back the recorded signal.
- (7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
- (8) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
- (9) Adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-3. (Adjust before recording, then confirm it by playing back.)
- (10) After adjustment, record the colour bar signal then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the play-back screen.
- (11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
- (12) Repeat steps (3) to (11) in the S-VHS LP mode.

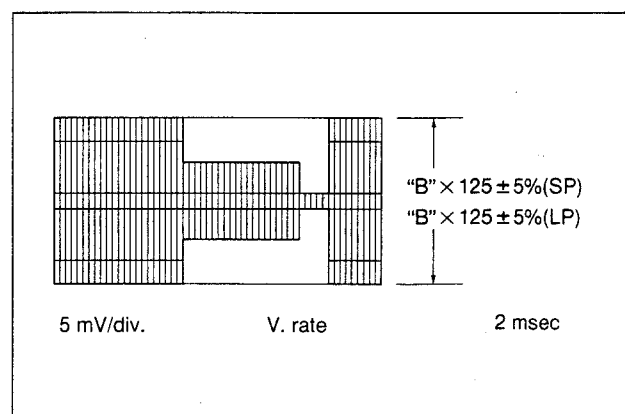


Fig. 3-3-3 SP/LP REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	(A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS/VHS • REC (SP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code "57"
EVR address	(F2)	• A:11 (Press remote controller "1" key twice)
Specified value	(G)	• 1.00 ± 0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

- (1) Observe the Y OUT waveform at the measuring point (D).
- (2) Record the colour bar signal in the S-VHS SP mode, and play back the recorded signal.
- (3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
- (4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
- (5) Adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
- (6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
- (7) Repeat steps (2) to (6) in the VHS SP mode.

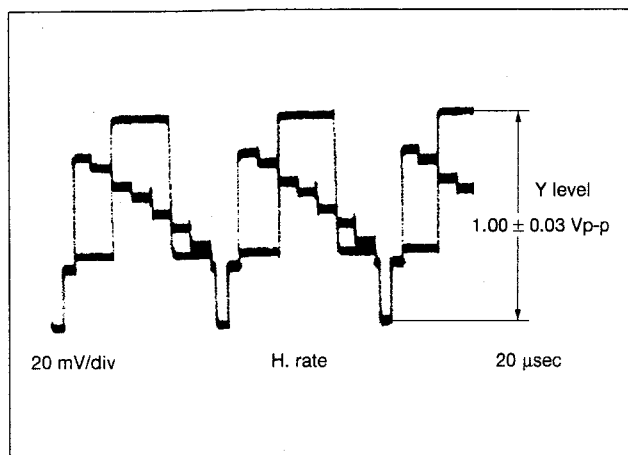


Fig. 3-3-4 PB Y level

3.3.4 Video EQ (Frequency response)

Signal	(A1) (A2)	• Ext. S-input • Video sweep signal
Mode	(B1) (B2) (B3)	• S-VHS • REC (SP/LP) → PB • Picture Control (Smart Picture) REC: Normal (Natural) PB: Edit (Distinct)
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
EVR mode	(F1)	• Jig RCU: Code "57"
EVR address	(F2)	• A:03 (Press remote controller "0" and "3" keys)
Specified value	(G)	• SP: 3.6 ± 0.4 div. (-1 ± 1 dB) • LP: 3.2 ± 0.4 div. (-2 ± 1 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

- (1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D).
- (2) Record the sweep signal in the S-VHS SP mode, and play back the recorded signal.
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
- (5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
- (6) Set the 100 kHz marker level of the channel having higher 3 MHz marker level of the Y OUT waveform (sweep signal) to the "4" scale on the oscilloscope. In this condition, adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the 3 MHz marker level reaches the specified value (G).
- (7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
- (8) Repeat steps (2) to (7) in the S-VHS LP mode.

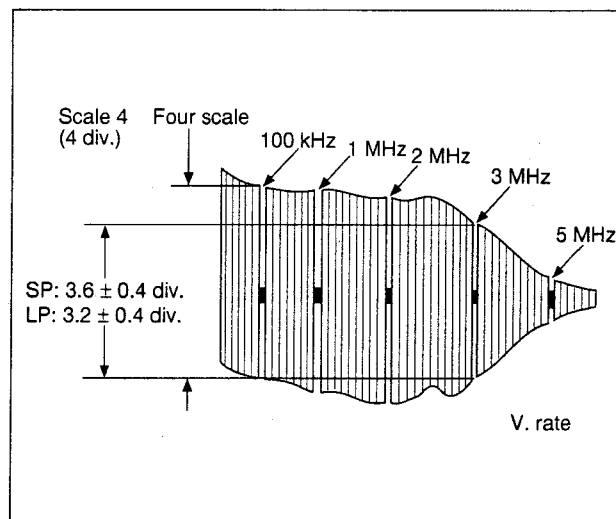


Fig. 3-3-5 Video EQ (Frequency Response)

3.3.5 Pilot burst level

Signal	(A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	(F)	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specified value	(G)	• "B" x 110 ± 10%

- (1) Insert the S-VHS tape.
- (2) Observe the waveform appeared at the measuring point (D).
- (3) Adjust the adjustment part (F) so that the Pilot burst level becomes the specified value (G) against the value of the Burst level "B".

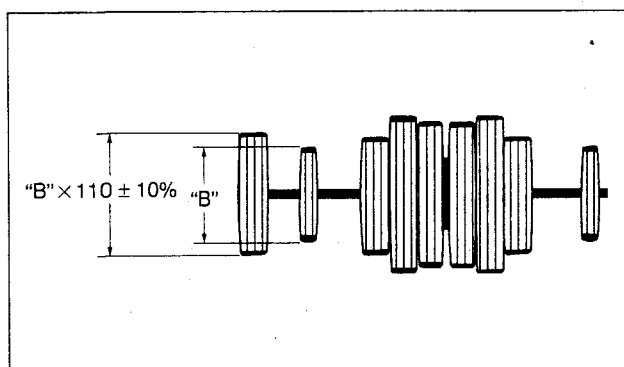


Fig. 3-3-6 Pilot burst level

3.3.6 AUTO PICTURE initial setting

Signal	(A1) (A2)	• Ext. input • Mono-scope
Mode	(B1) (B2)	• S-VHS • REC (SP/LP) → PB
Adjustment part	(F)	• Jig RCU: Code "58"
Specified value	(G)	• Stop mode

- (1) Record the mono-scope signal in the S-VHS SP mode, and play back the recorded signal.
- (2) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (3) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (3) again.
- (4) Repeat steps (1) to (3) in the S-VHS LP mode.

3.4 3D SVHS CIRCUIT

Note: • Unless otherwise specified, the measuring point and adjustment part are located on the 3D SVHS board.

3.4.1 D/A level

Signal	(A1) (A2)	• Ext. S-input / Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• CN1002 - pin 28 (Y OUT) [3D SVHS board]
Adjustment part	(F)	• VR1401 (DA Y LEVEL) [3D SVHS board]
Specified value (Note)	(G)	• 2.05 ± 0.03 Vp-p (reference)

- (1) Observe the Y OUT waveform at the measuring point (D).
- (2) Check the Y level value when the External S-input (Y/C separated video signal).
- (3) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (2).

Note: • The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (2).

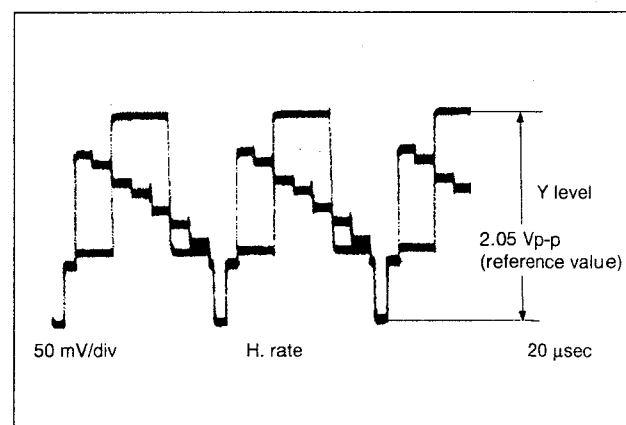


Fig. 3-4-1 D/A level

3.5 AUDIO CIRCUIT

- Notes:**
- Unless otherwise specified, the measuring point and adjustment part are located on the Main board.
 - This adjustment should be done after the "SP/LP REC colour level adjustment" for the video circuit has been completed.
 - GND (Ground) should be taken from the Pre/Rec board shield.

3.5.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS • REC (LP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB FM) [Pre/Rec board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• VR2271 (FMA REC LEVEL) [Pre/Rec board]
Specified value	(G1) (G2)	• 600 ± 100 mVp-p • More than 400 mVp-p

- (1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
- (2) Record the colour bar signal with no audio signal input in the S-VHS LP mode, and play back the recorded signal.
- (3) Press the channel buttons (+, -) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Adjust the adjustment part (F) so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
- (5) If the specified value (G1) is not obtained, adjust the adjustment part (F) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)

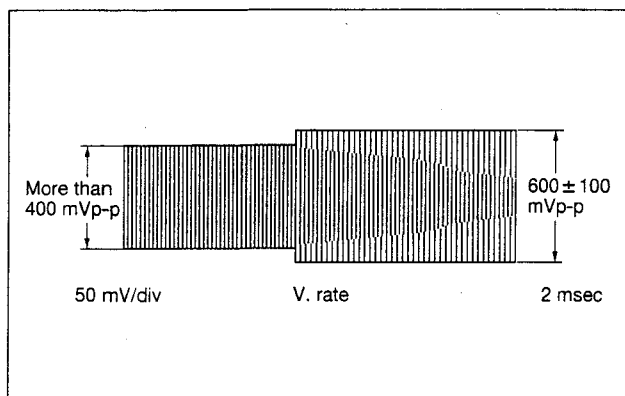


Fig. 3-5-1 Audio REC

3.6 DIGITAL CIRCUIT

- Note:** • Unless otherwise specified, all measuring points and adjustment parts are located on the Digital board.

3.6.1 CODEC AD Y input level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B)	• D-VHS
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP8614 (AD Y IN)
Adjustment part	(F)	• VR8601 (CODEC AD Y IN)
Specified value	(G)	• 1.48 ± 0.01 Vp-p

- (1) Insert the D-VHS tape (A3).
- (2) Observe the Y waveform at the measuring point (D).
- (3) Adjust the adjustment part (F) so that the Y level of the Y waveform becomes the specified value (G).

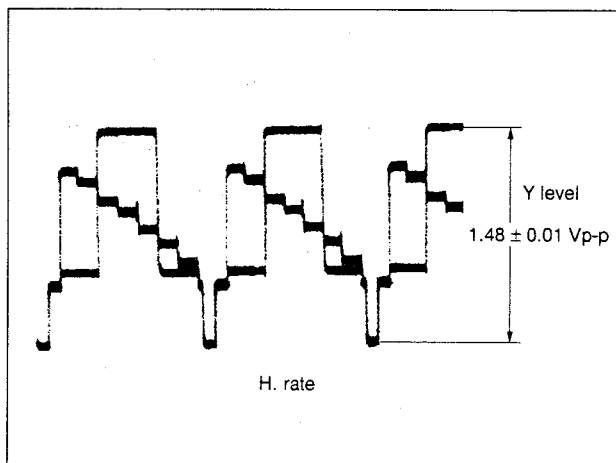


Fig. 3-6-1 CODEC AD Y input level

3.6.2 CODEC S-Y level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code "62"
EVR address	(F2) (F3)	• "0" Y-GAIN [EVR (DIGITAL)] (Press remote controller "0" key) • Jig RCU: Code "3C"
Specified value	(G)	• 1.00 ± 0.02 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

- (1) Observe the Y OUT waveform at the measuring point (D).
- (2) Record the colour bar signal in the D-VHS STD mode, and play back the recorded signal.
- (3) Set the VCR to the EVR (DIGITAL) mode by transmitting the code (F1) from the Jig RCU.
- (4) Set the EVR (DIGITAL) address to (F2) by pressing the button of the digit-key remote controller.
- (5) Adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
- (6) Release the EVR (DIGITAL) mode of the VCR by transmitting the code (F3) from the Jig RCU. (When the EVR mode is released, the adjusted data is memorized.)

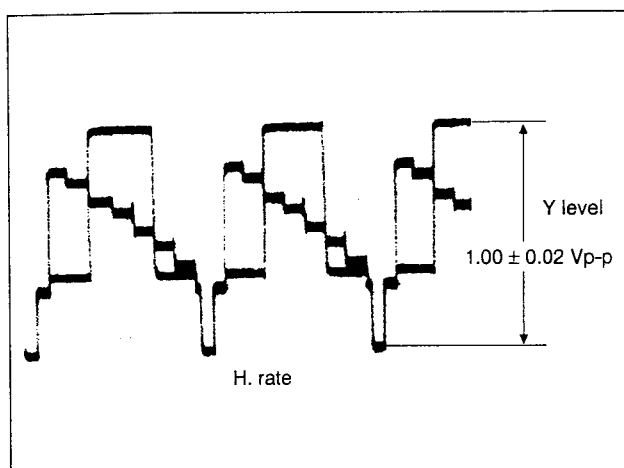


Fig. 3-6-2 CODEC S-Y level

3.6.3 CODEC S-C level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• C OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code "62"
EVR address	(F2) (F3)	• "3" C-GAIN [EVR (DIGITAL)] (Press remote controller "3" key) • Jig RCU: Code "3C"
Specified value	(G)	• 300 ± 10 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

- (1) Observe the C OUT waveform at the measuring point (D).
- (2) Record the colour bar signal in the D-VHS STD mode, and play back the recorded signal.
- (3) Set the VCR to the EVR (DIGITAL) mode by transmitting the code (F1) from the Jig RCU.
- (4) Set the EVR (DIGITAL) address to (F2) by pressing the button of the digit-key remote controller.
- (5) Adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the Burst level of the C OUT waveform becomes the specified value (G).
- (6) Release the EVR (DIGITAL) mode of the VCR by transmitting the code (F3) from the Jig RCU. (When the EVR mode is released, the adjusted data is memorized.)

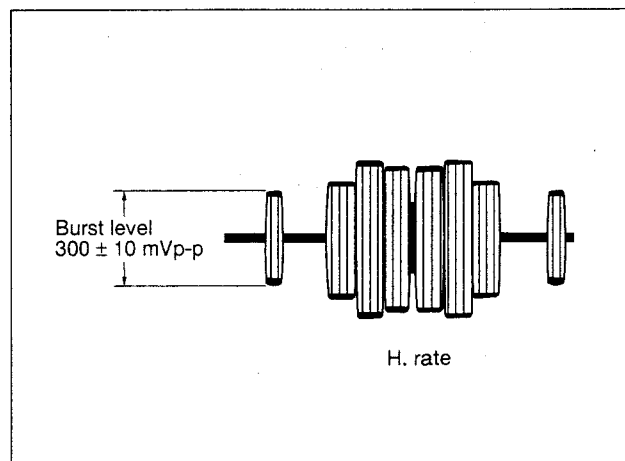


Fig. 3-6-3 CODEC S-C level

3.6.4 D-VHS REC level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD)
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP6001 (DVHS REC LEVEL) [Pre/Rec board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• VR6021 (DVHS REC LEVEL) [Pre/Rec board]
Specified value	(G)	• 70 - 75 mVp-p

- (1) Insert the D-VHS tape (A3) and record the signal (A2).
- (2) Apply the external trigger signal to D.FF (E) to observe the waveform appeared at the measuring point (D).
- (3) Adjust the adjustment part (F) so that the waveform signal level "a" becomes the specified value (G).

Notes:

- GND (Ground) should be taken from the Pre/Rec board shield.
- The signal level adjustment should be performed by setting the centre of the darkened section on the CRT bright line.

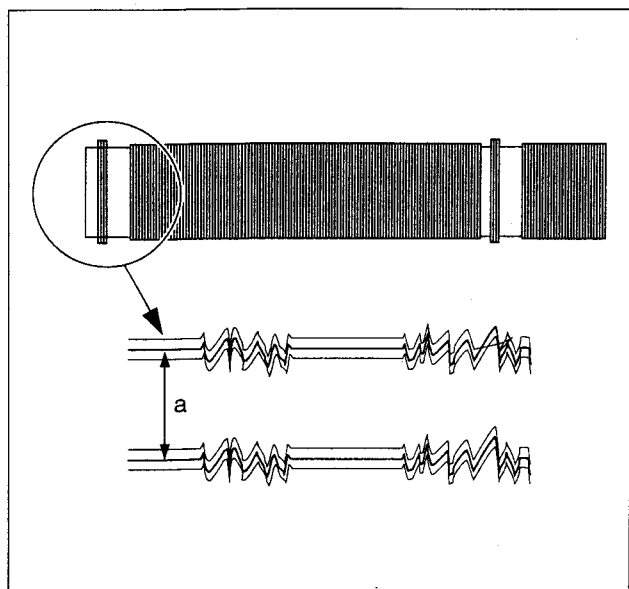


Fig. 3-6-4 D-VHS REC level

3.6.5 PLL f0

Signal	(A)	• DF-300
Mode	(B1) (B2)	• D-VHS • EE
Adjustment part	(F)	• Jig RCU: Code "60"
Specified value	(G)	• Stop mode

- (1) Insert the D-VHS tape (A).
- (2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) and (2) again.

Notes:

- Do not connect the probe or any other jig to the terminal or shield case of the Pre/Rec board during adjustment.

- If auto adjustment is not completed by the above procedure, re-adjust the Adjustment Item 3.6.4 again.

3.7 SYSCON CIRCUIT

Notes:

- Unless otherwise specified, the measuring point and adjustment part are located on the Main board.

- When perform this adjustment, remove the Mechanism assembly.

3.7.1 Timer clock

Signal	(A)	• No signal
Mode	(B)	• EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC3001 pin61
Short point	(D2) (D3)	• IC3001 pin24 • C3026 + and -
Adjustment part	(F)	• C3025 (TIMER CLOCK)
Specified value	(G)	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μsec)

- (1) Connect the frequency counter to the measuring point (D1).
- (2) Connect the short wire between the short point (D2) and Vcc (5V).
- (3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the SYSCON.
- (4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
- (5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

SECTION 4 CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

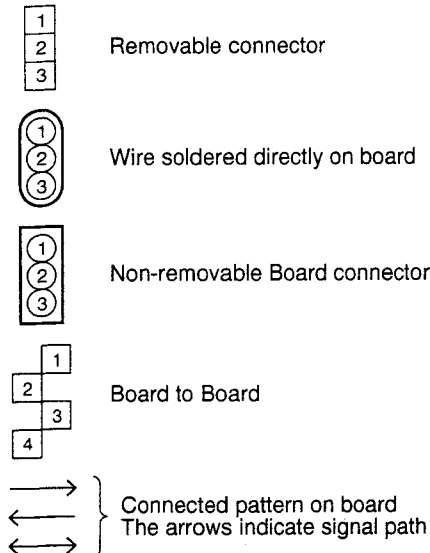
- 1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K Ω (1000 Ω), M: M Ω (1000K Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

AUX or AUX(L) : Active at low

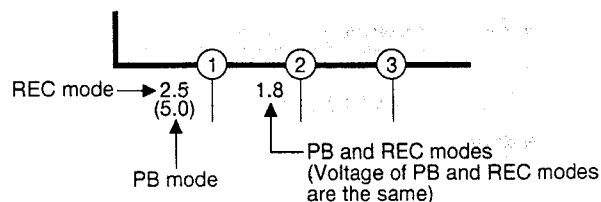
3. Interpreting Connector indications



4. Voltage measurement

- 1) Video circuits
REC : Colour bar signal in SP mode, normal VHS mode
PB : Alignment tape, colour bar SP mode, normal VHS mode
— : Unmeasurable or unnecessary to measure
- 2) Audio circuits
REC : 1KHz, -8 dBs sine wave signal in SP mode, Normal VHS mode
PB : REC then playback it
- 3) Movie Camera circuits
Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode

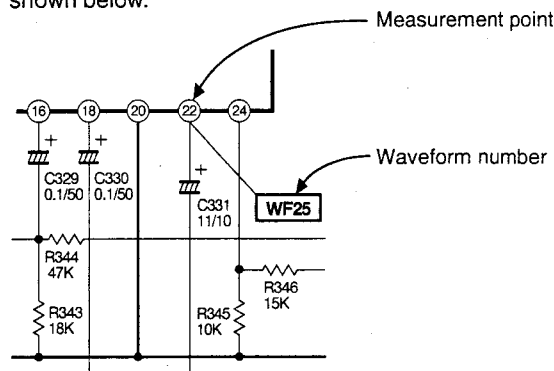
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



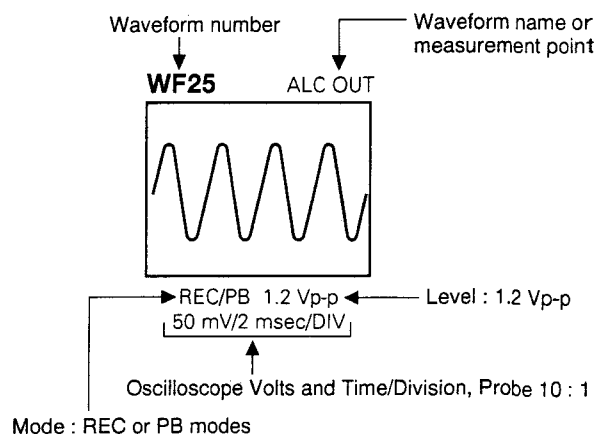
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

- 1) Video circuits
REC : Colour bar signal in SP mode, normal VHS mode
PB : Alignment tape, colour bar SP mode, normal VHS mode
- 2) Audio circuits
REC : 1KHz, -8 dBs sine wave signal in SP mode, normal VHS mode
PB : REC then playback it
- 3) Movie Camera circuits
Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
- 4) Indication on schematic diagram
Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

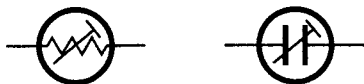
-  Playback signal path
-  Playback and recording signal path
-  Recording signal path (including E-E signal path)
-  Capstan servo path
-  Drum servo path

(Example)

-  R-Y Playback R-Y signal path
-  Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



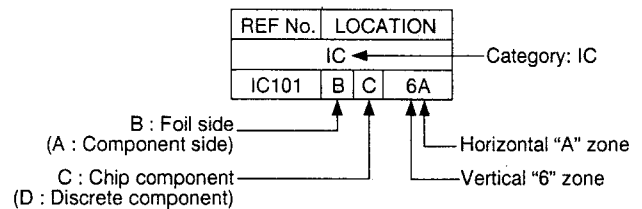
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

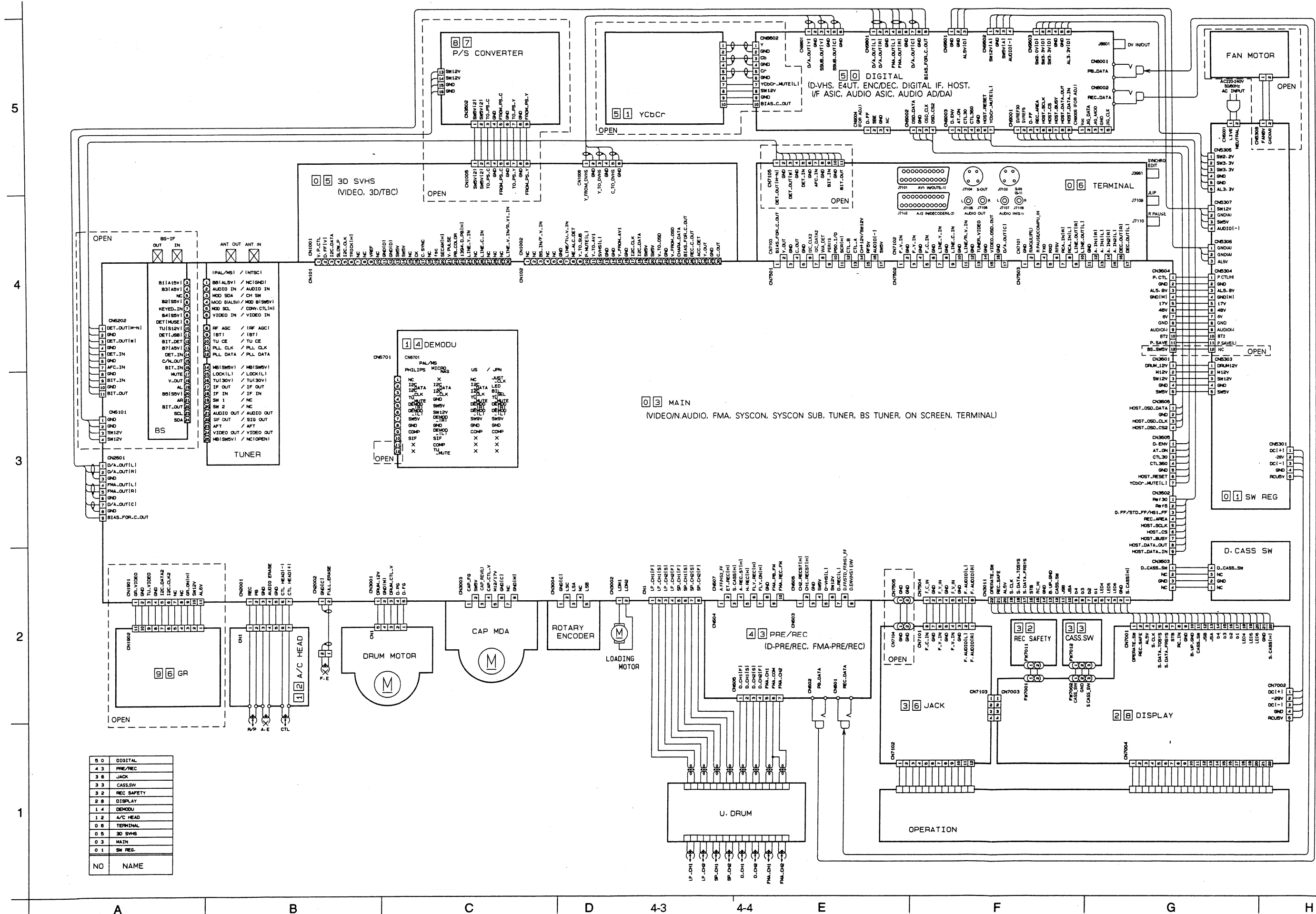
Parts location are indicated by guide scale on the circuit board.



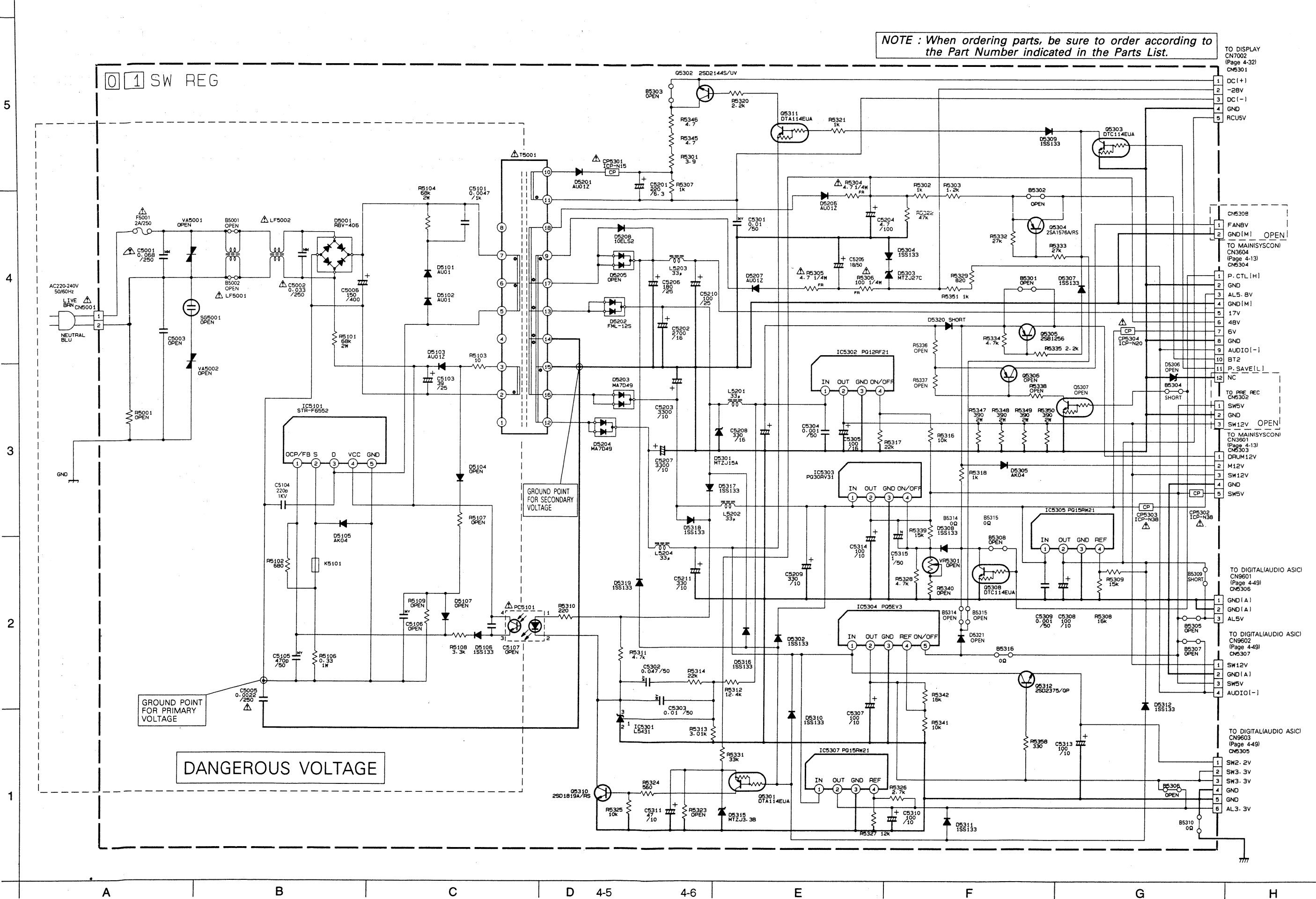
Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

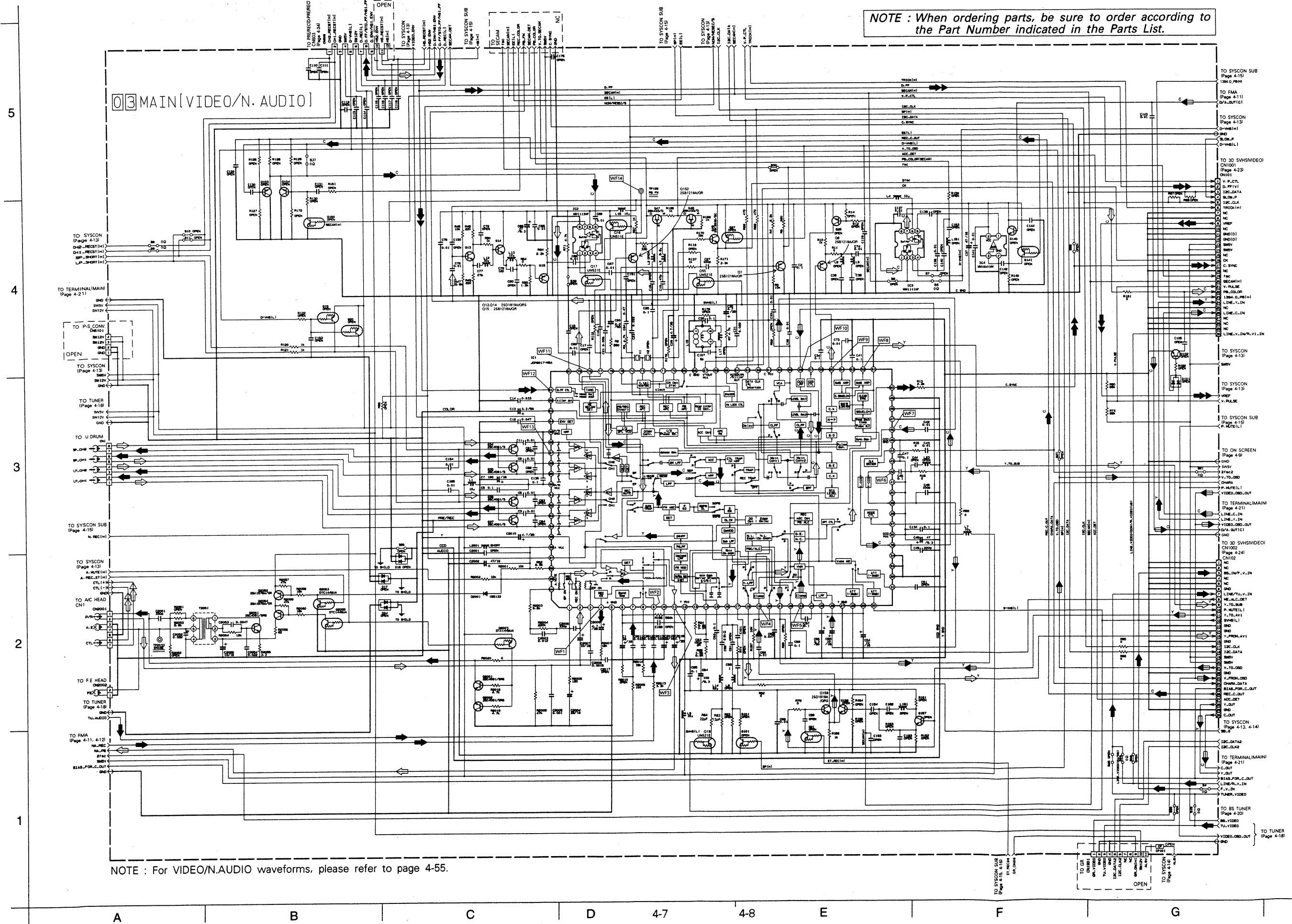
4.1 BOARD INTERCONNECTIONS



4.2 SWITCHING REGULATOR SCHEMATIC DIAGRAM



4.3 VIDEO/N.AUDIO SCHEMATIC DIAGRAM

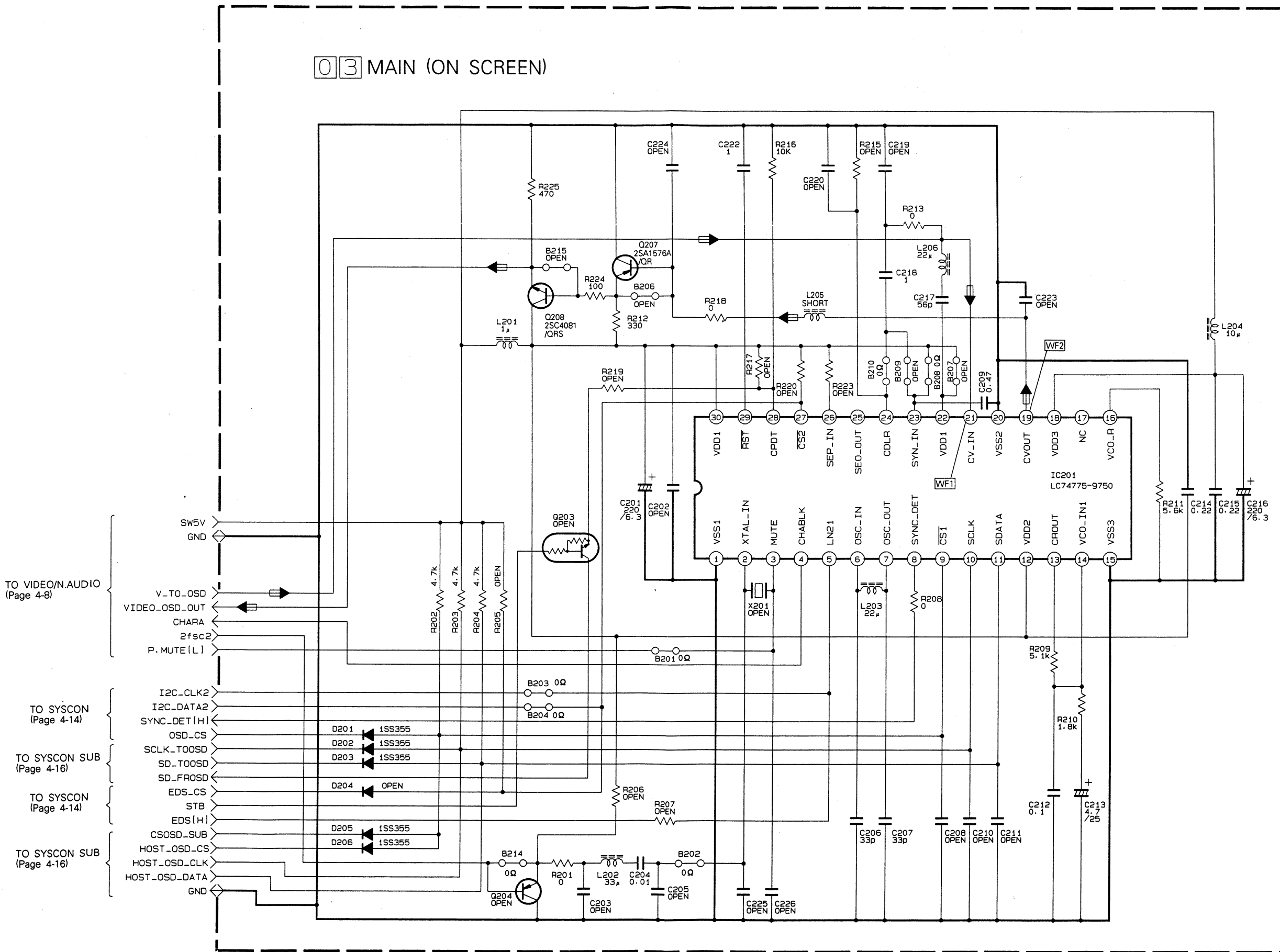


NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-55.

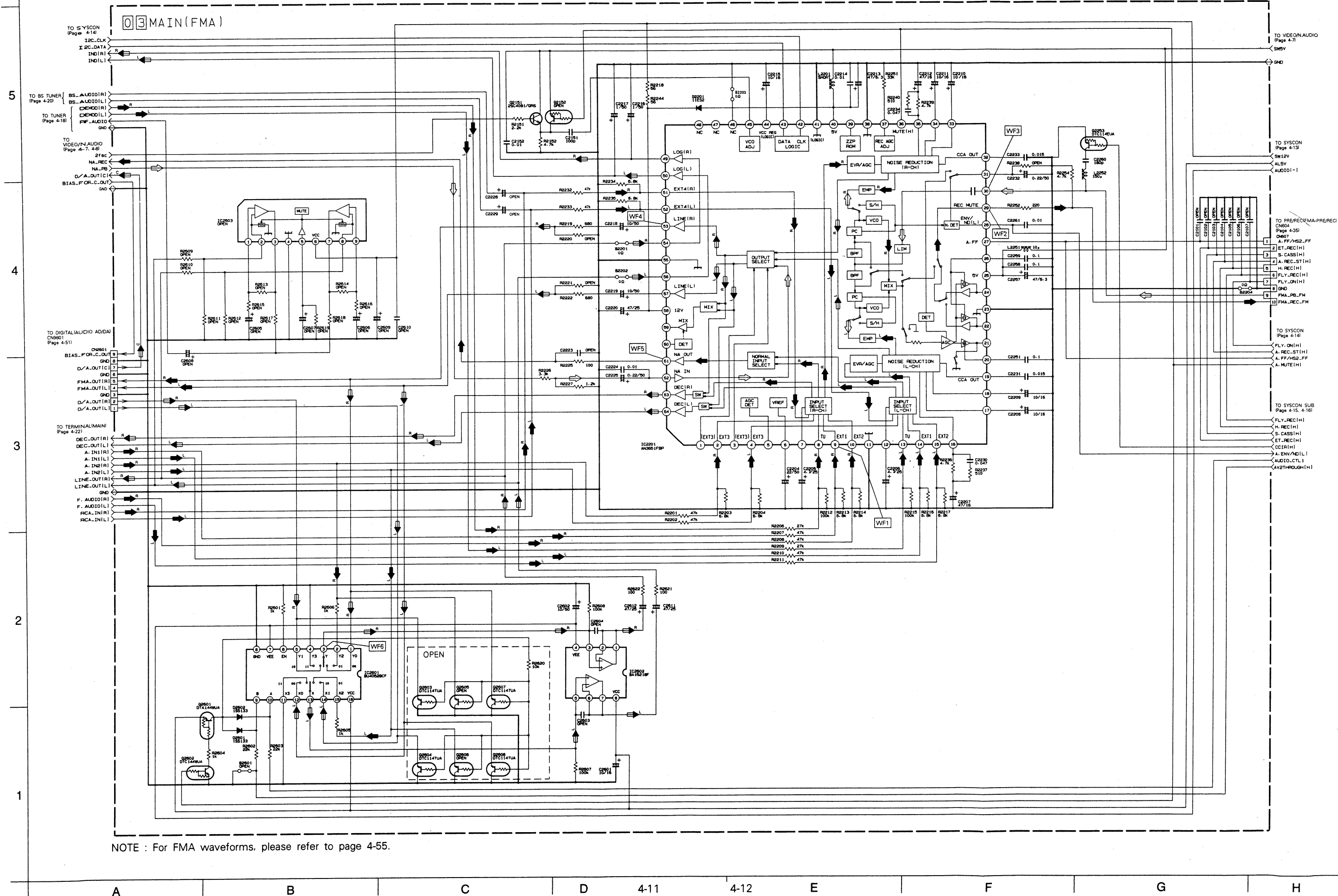
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

4.4 ON SCREEN SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

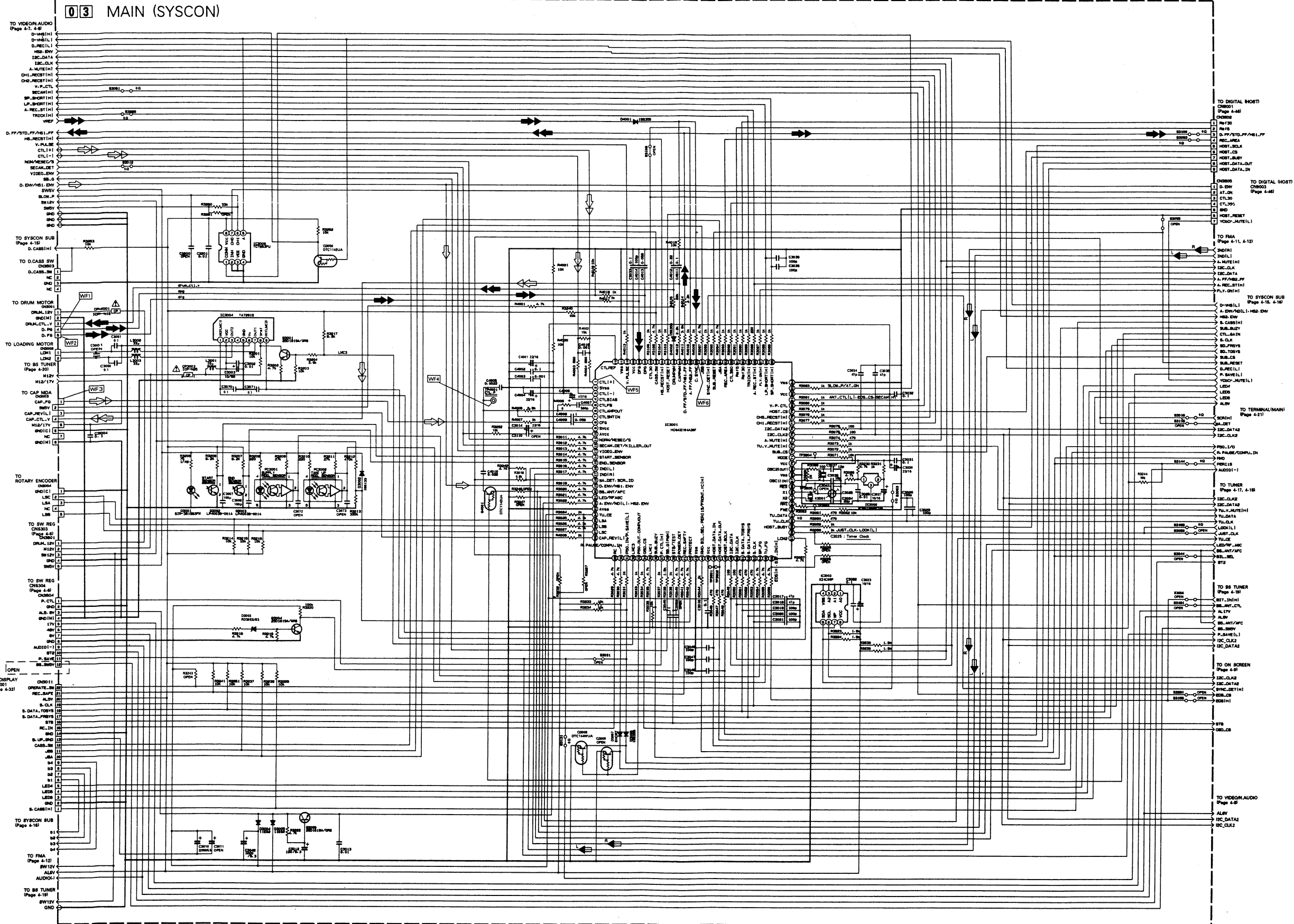


NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.6 SYSCON SCHEMATIC DIAGRAM

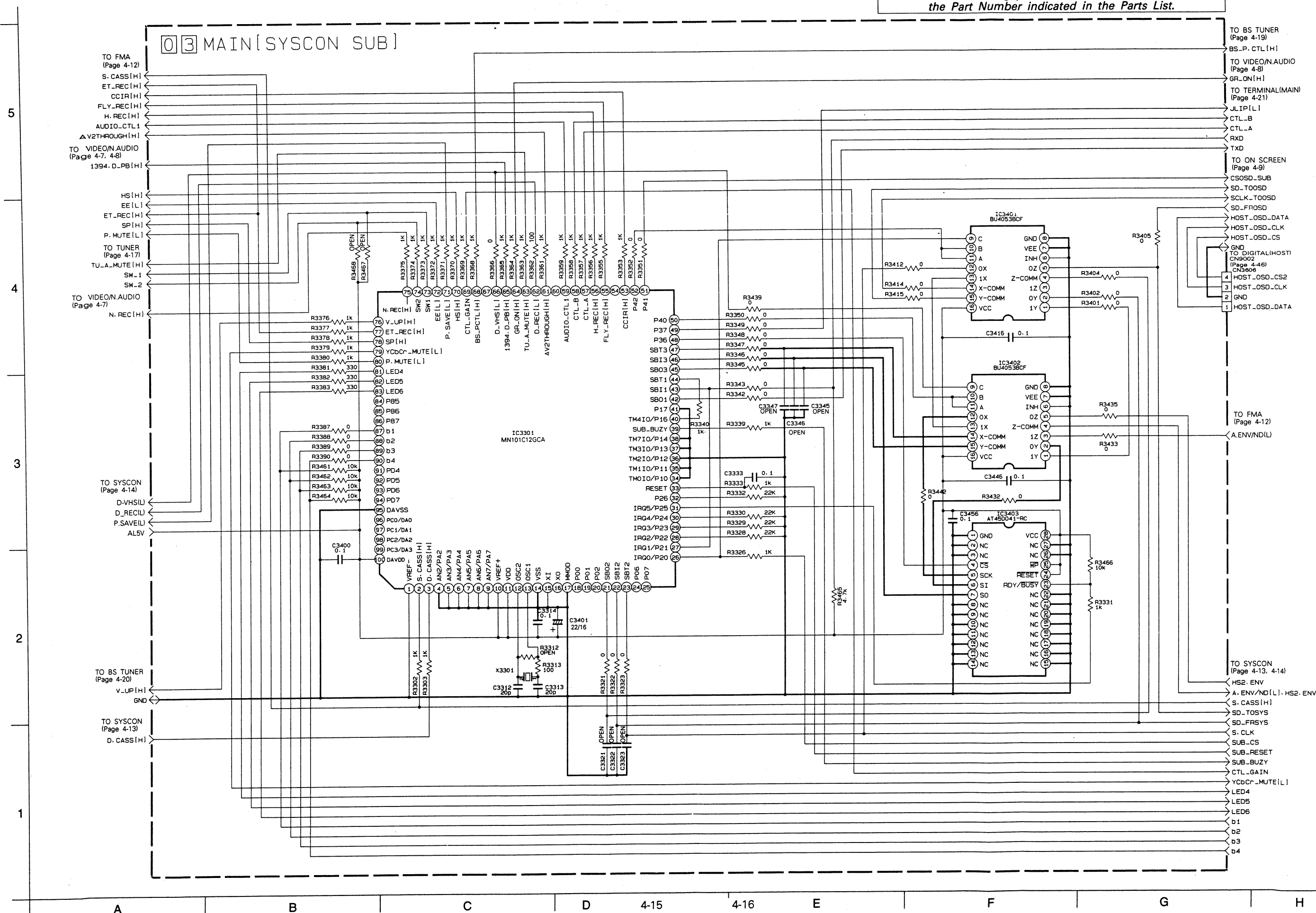
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



NOTE : For SYSCON waveforms, please refer to page 4-55.

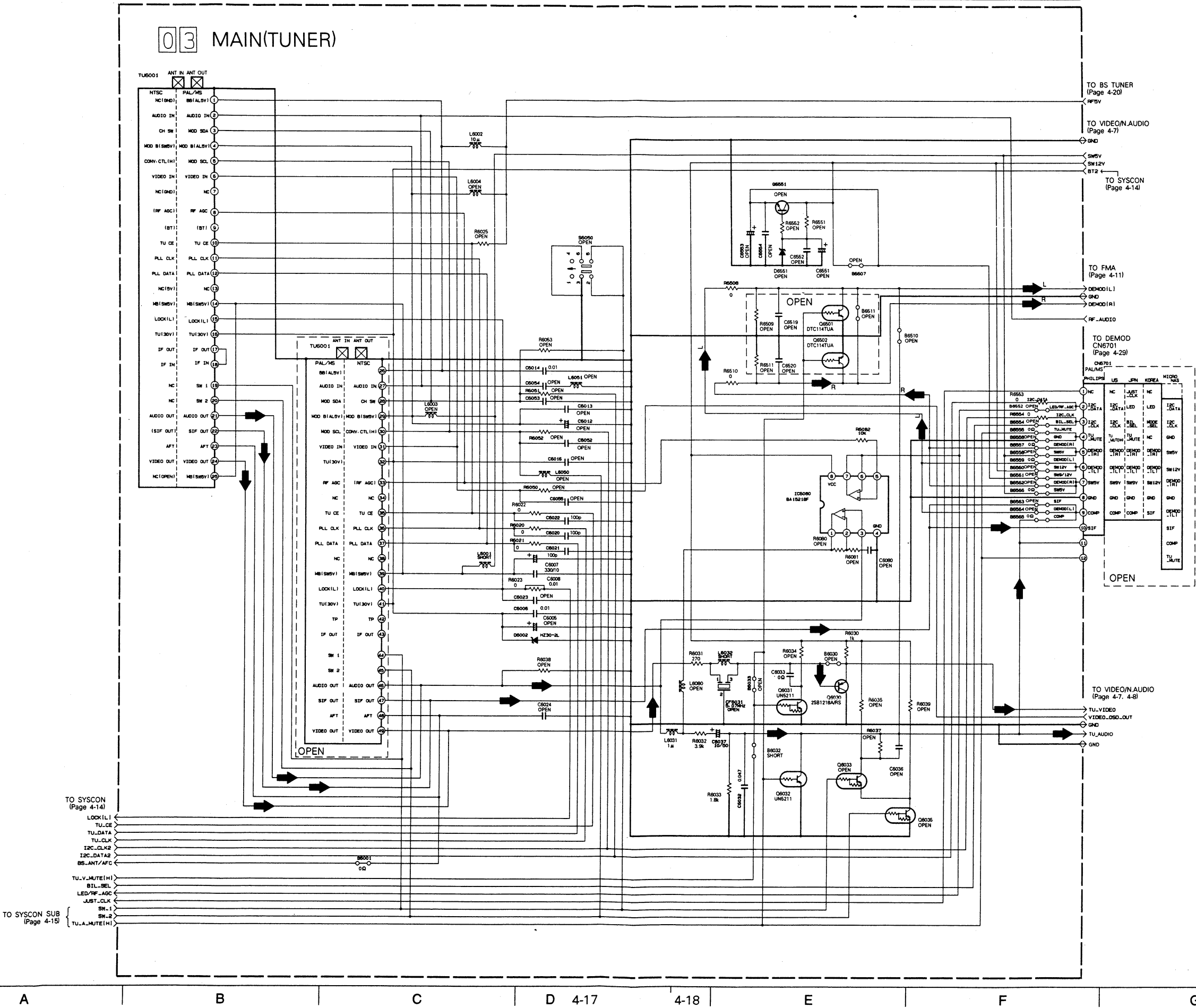
4.7 SYSCON SUB SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



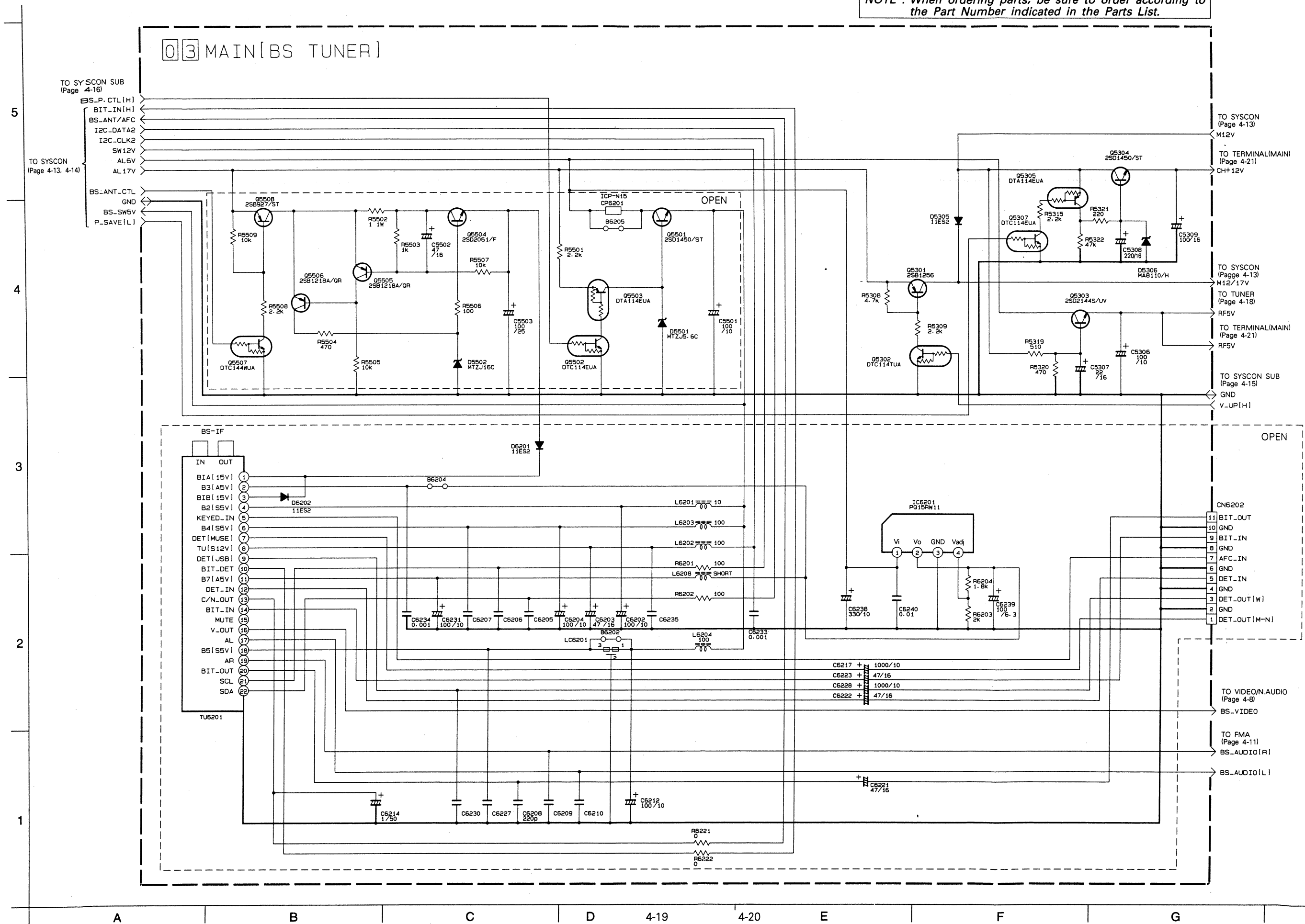
4.8 TUNER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



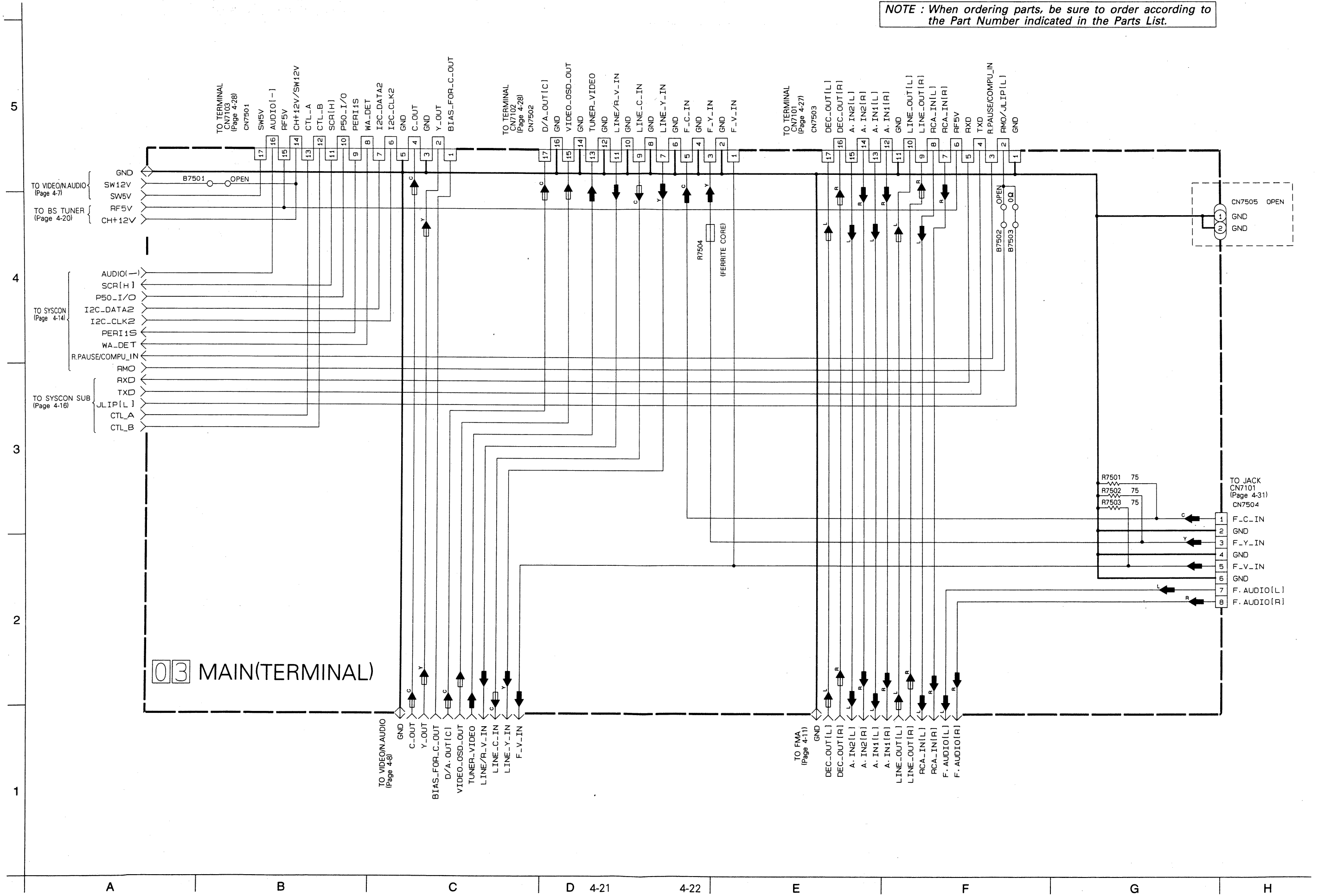
4.9 BS TUNER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



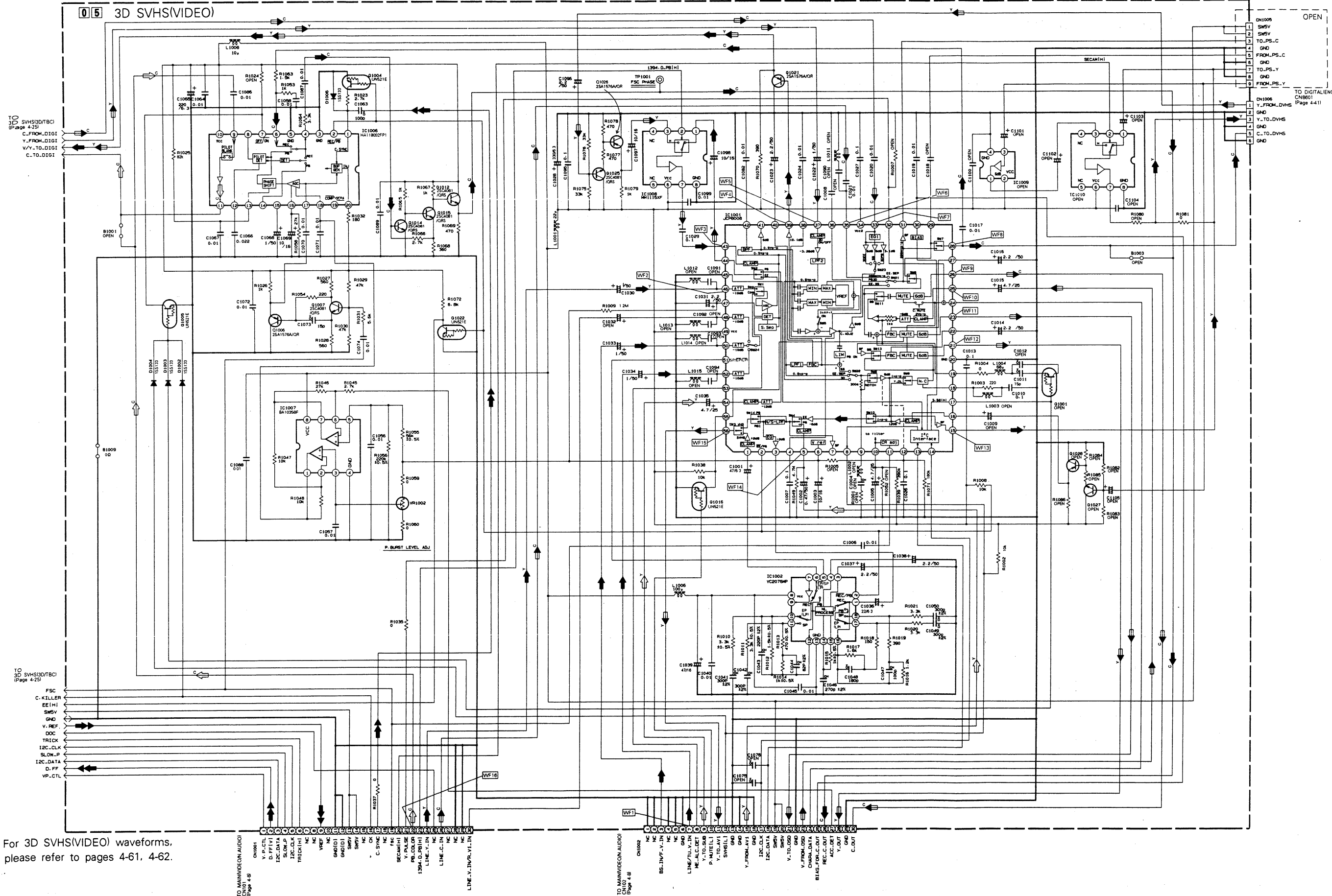
4.10 TERMINAL(MAIN) SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.11 3D SVHS(VIDEO) SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



NOTE : For 3D SVHS(VIDEO) waveforms,
please refer to pages 4-61, 4-62.

TO MAIN/VIDEO/NAUDIO)
CN101

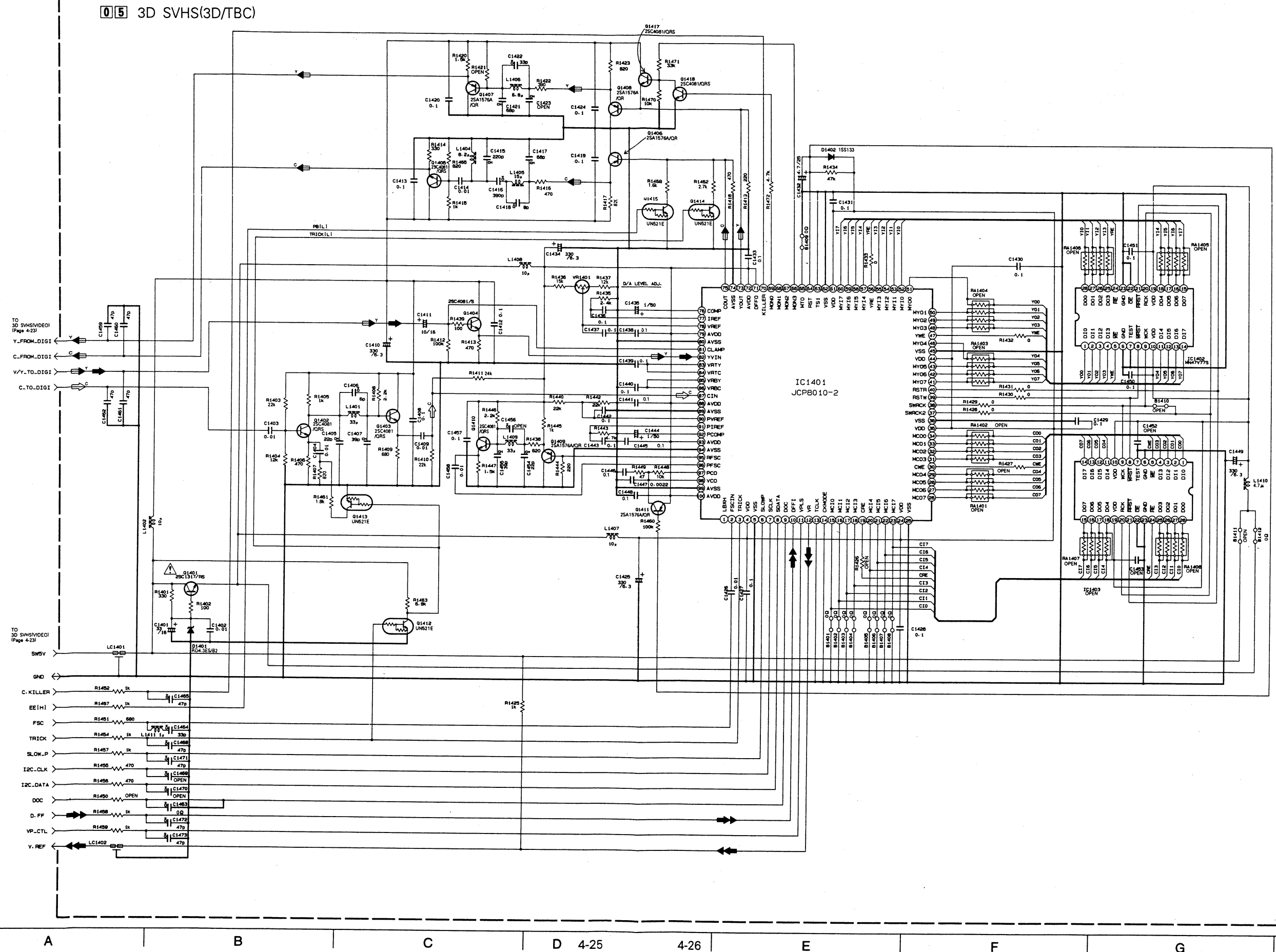
TO MAIN/VIDEO/AUDIO
CH 02

LINE/TU_V-IN
GND

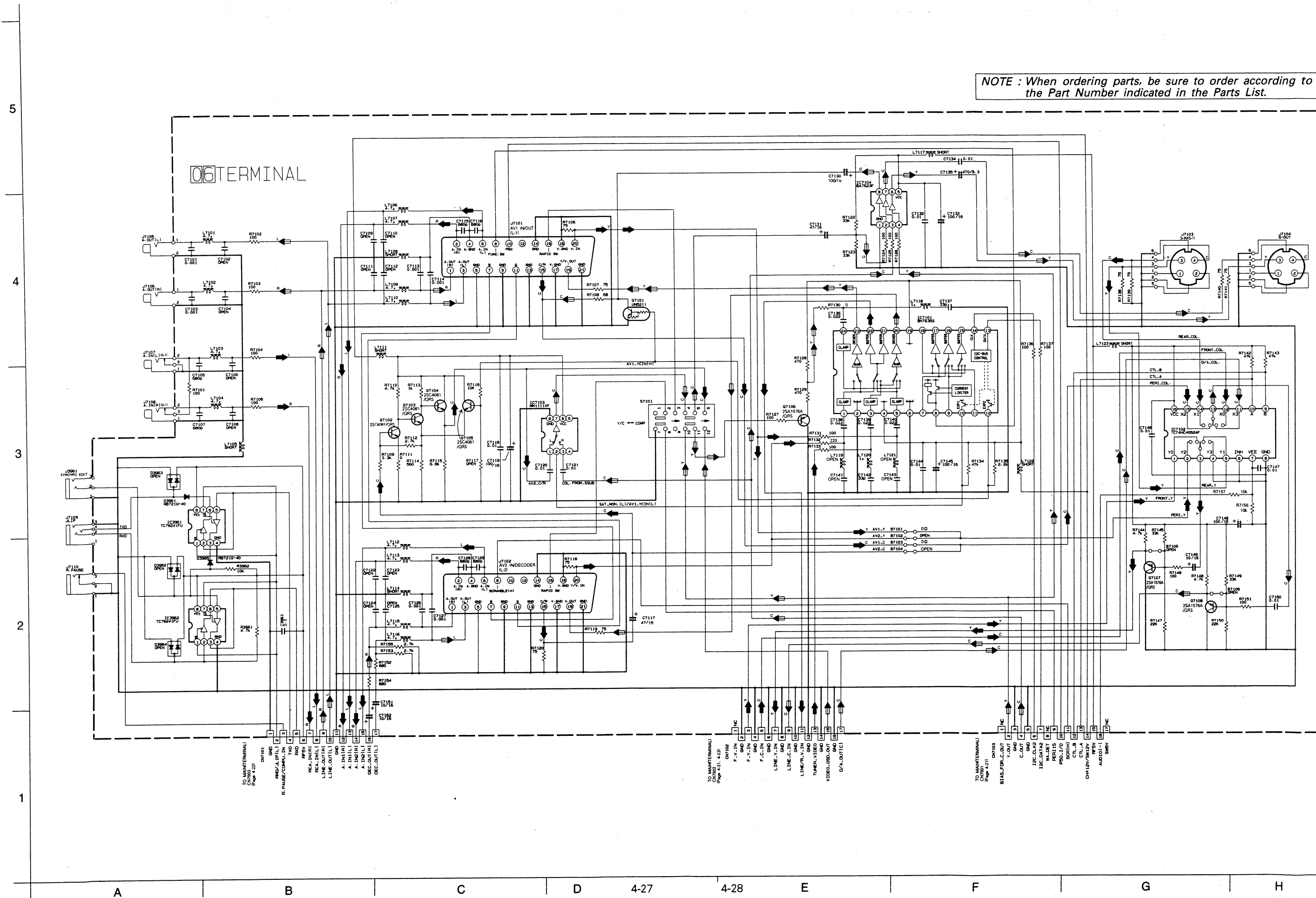
I2C_CLK
GND
I2C_ADDR

4.12 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

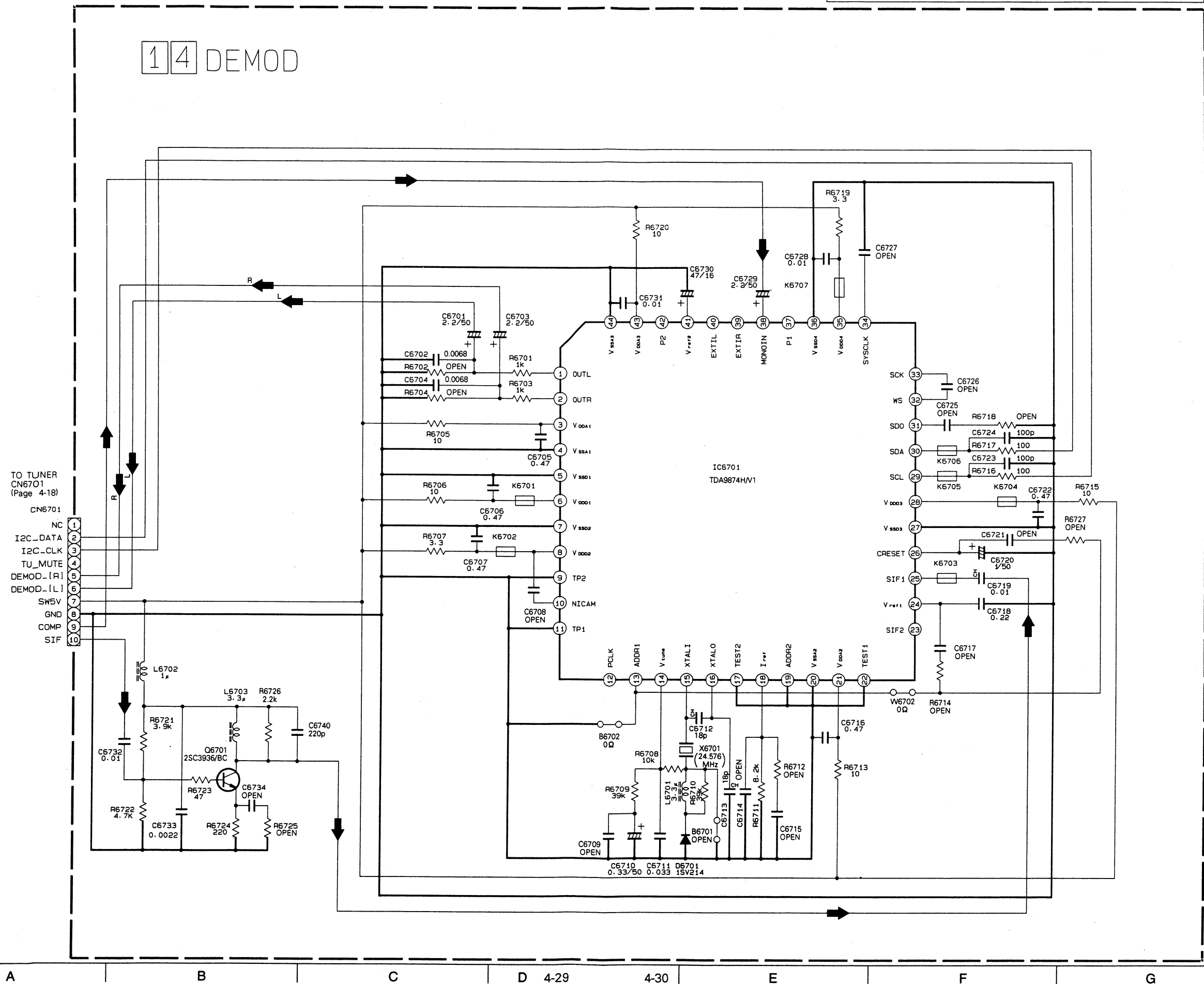


NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



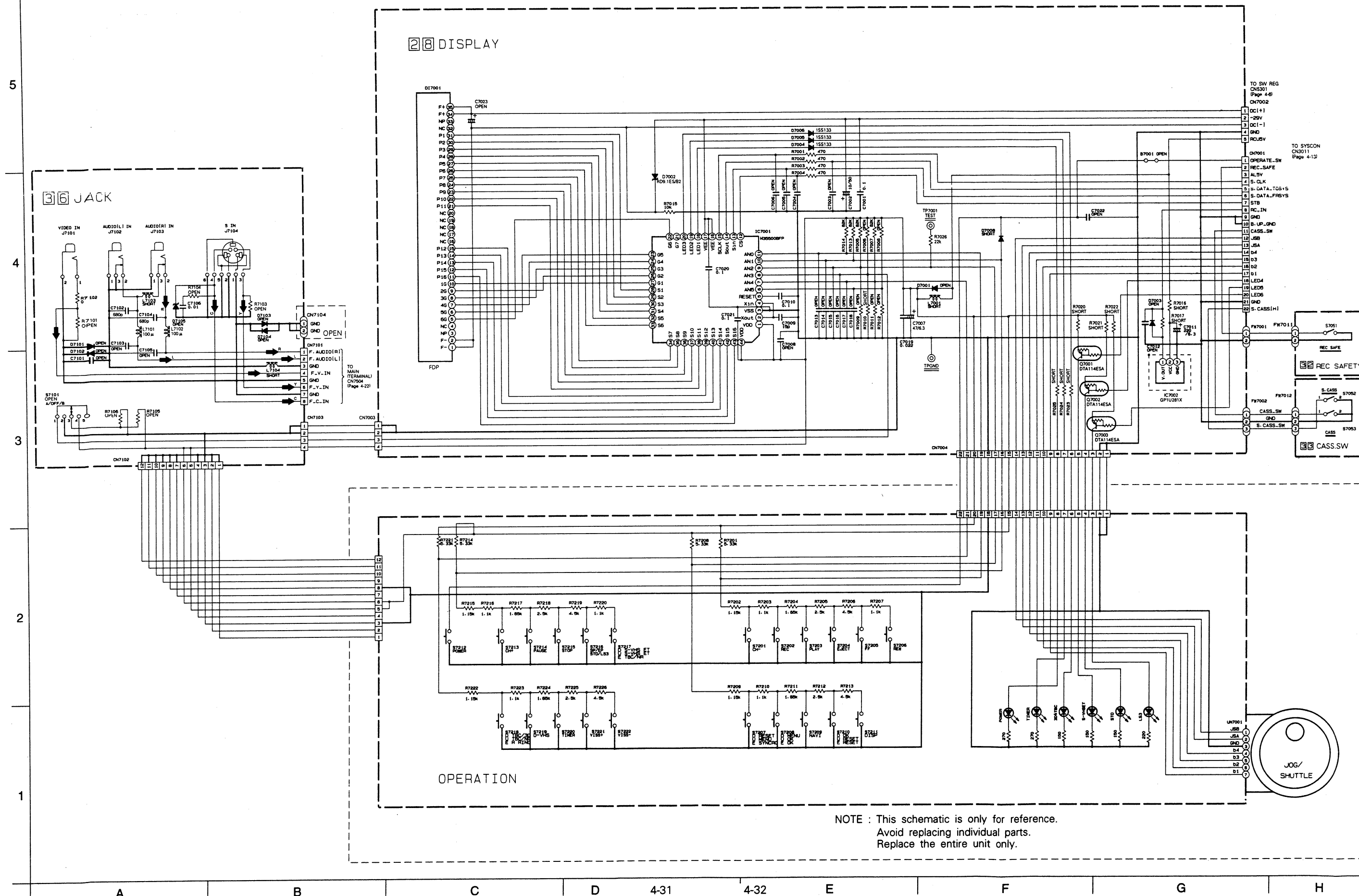
4.14 DEMODULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



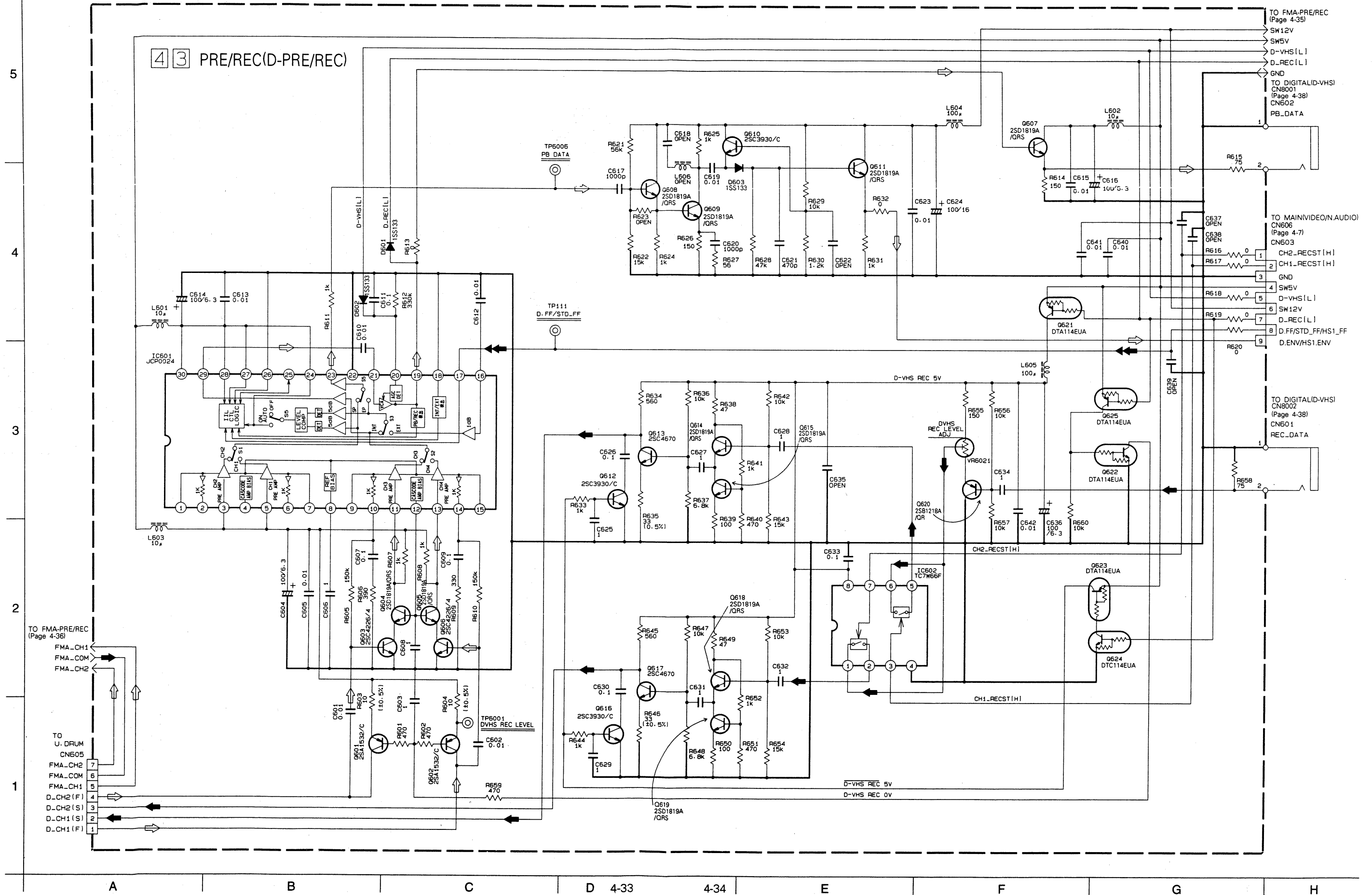
4.15 DISPLAY, OPERATION, REC SAFETY, CASS.SW AND JACK SCHEMATIC DIAGRAMS

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



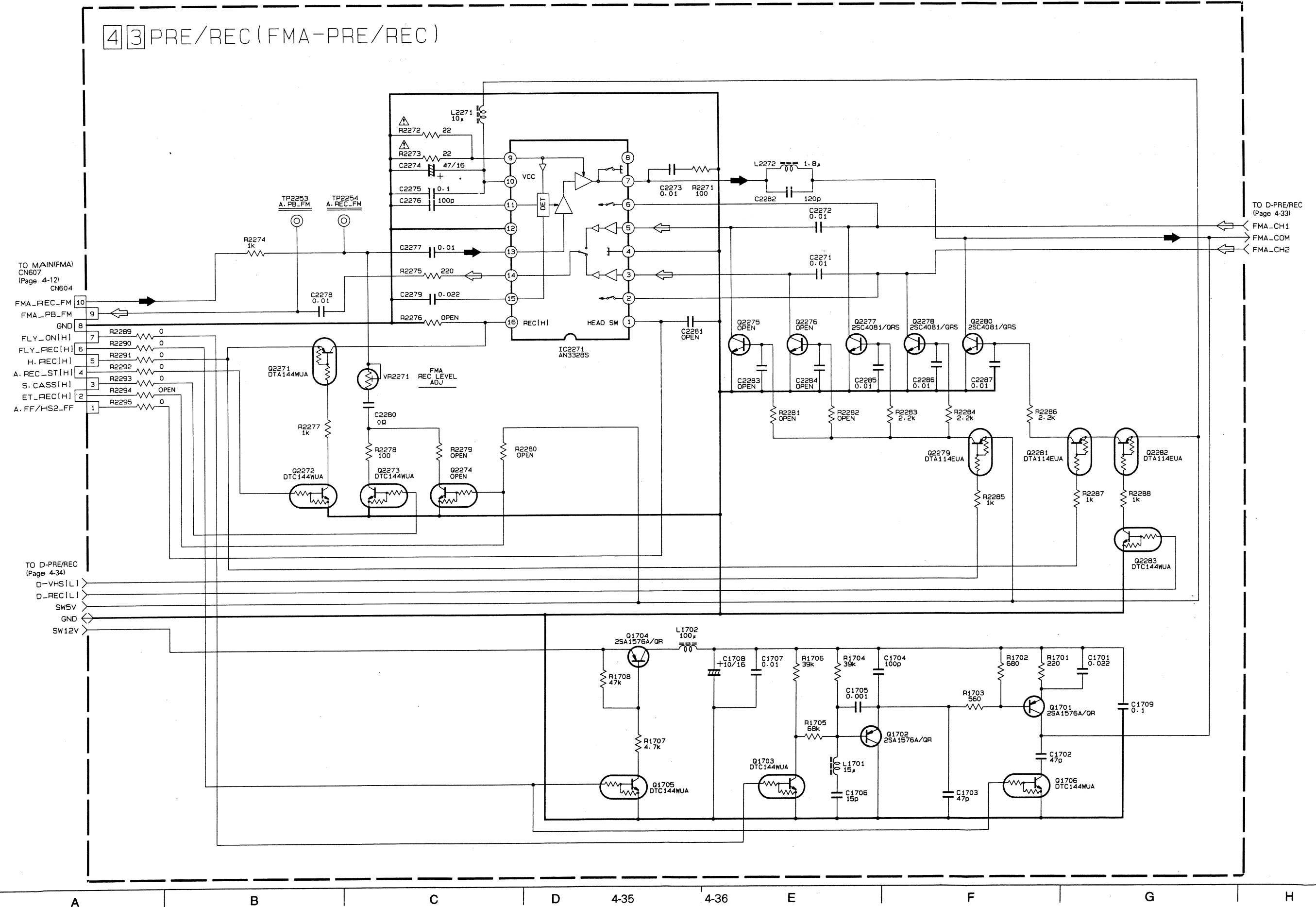
4.16 D-PRE/REC SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



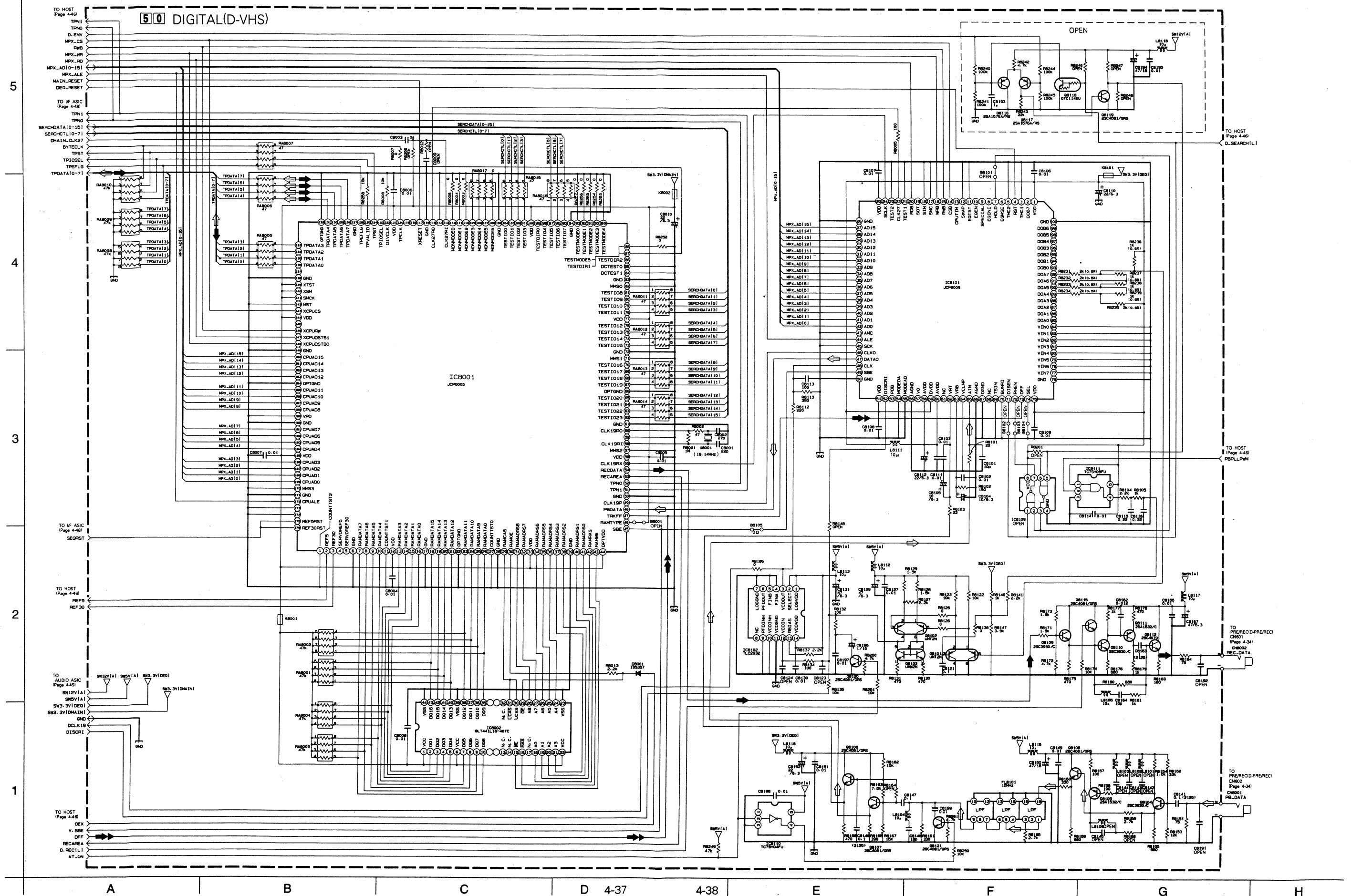
4.17 FMA-PRE/REC SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



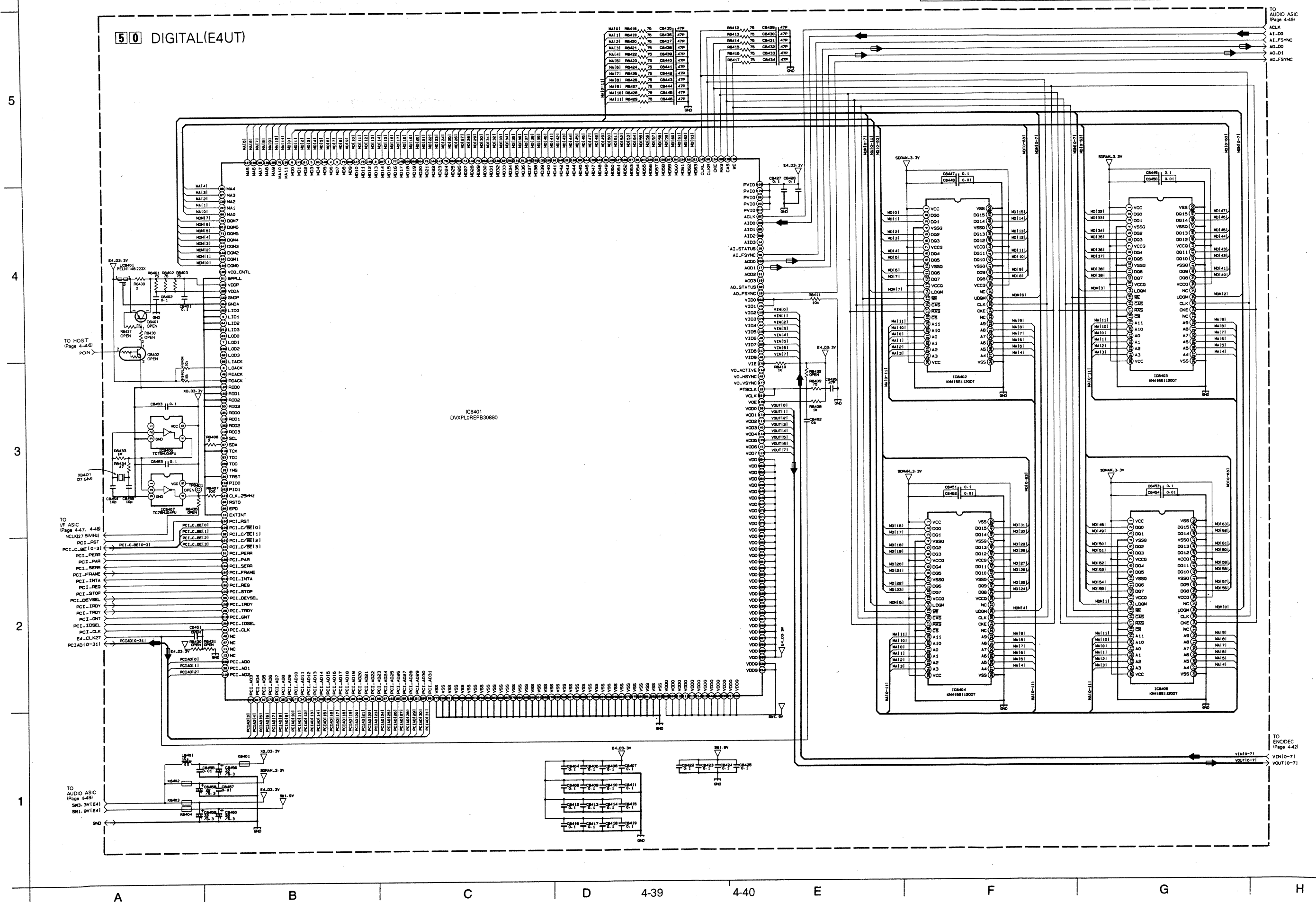
4.18 D-VHS SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.19 E4UT SCHEMATIC DIAGRAM

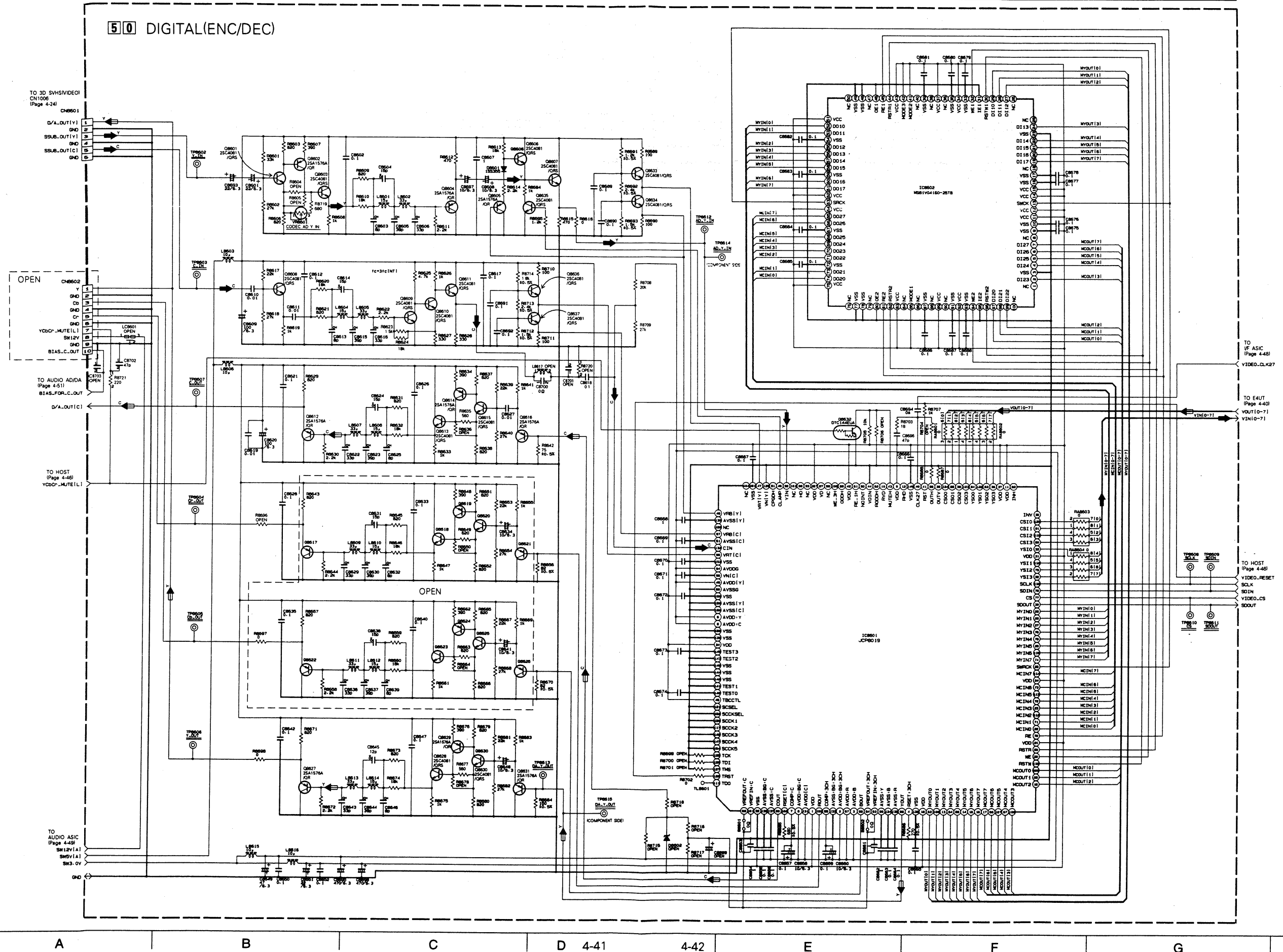
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.20 ENC/DEC SCHEMATIC DIAGRAM

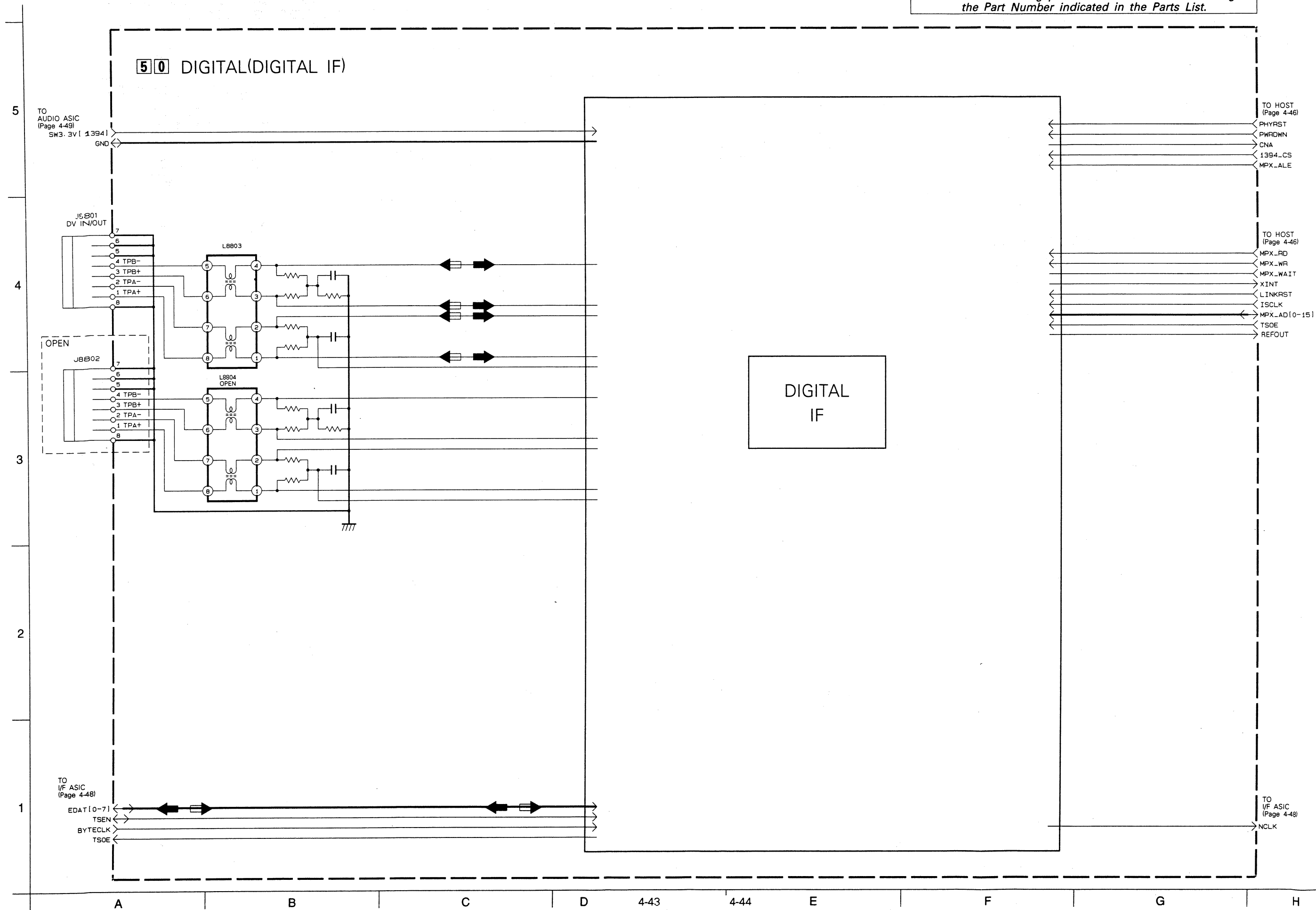
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

50 DIGITAL(ENC/DEC)



4.21 DIGITAL IF SCHEMATIC DIAGRAM

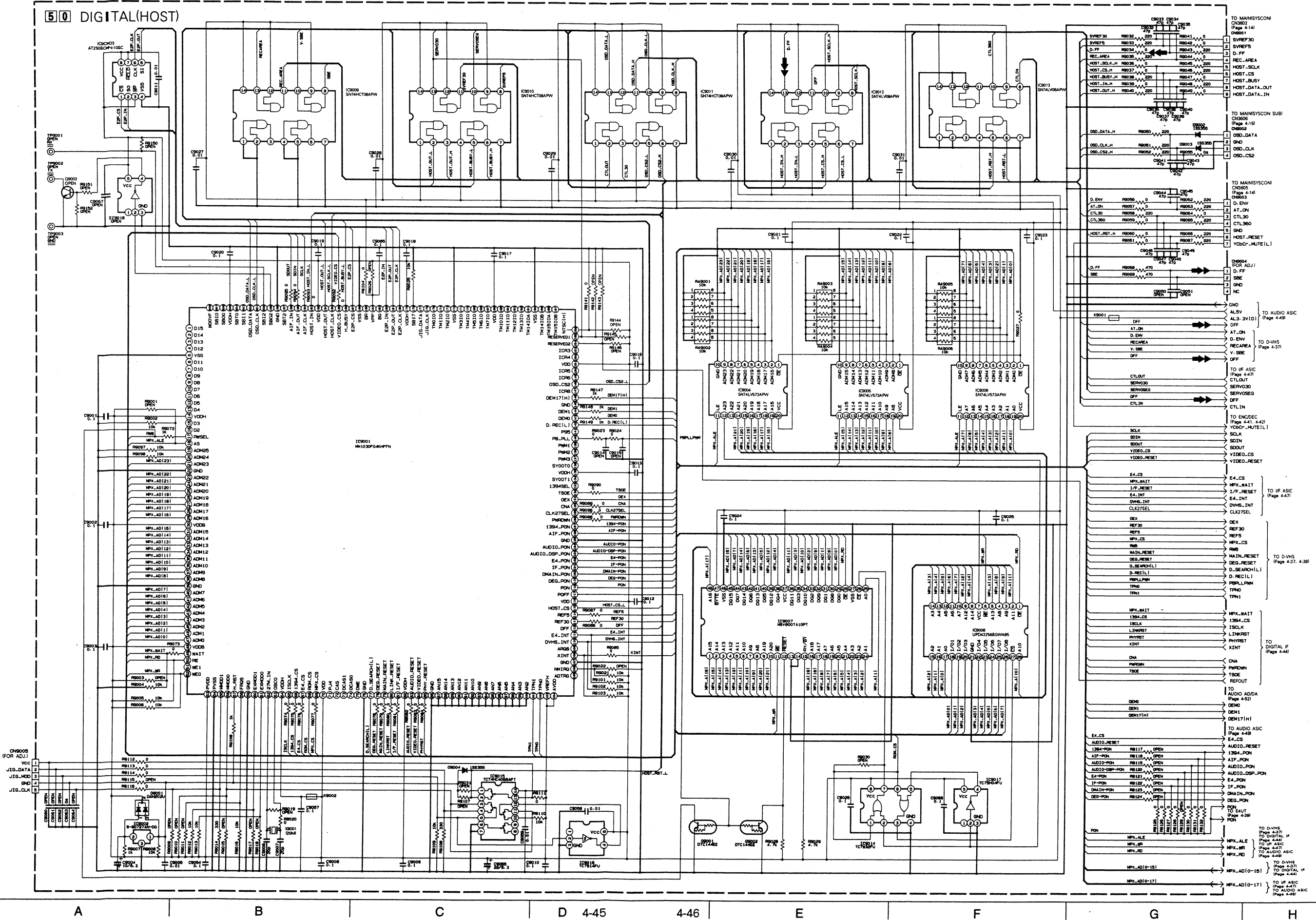
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.22 HOST SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

50 DIGITAL(HOST)

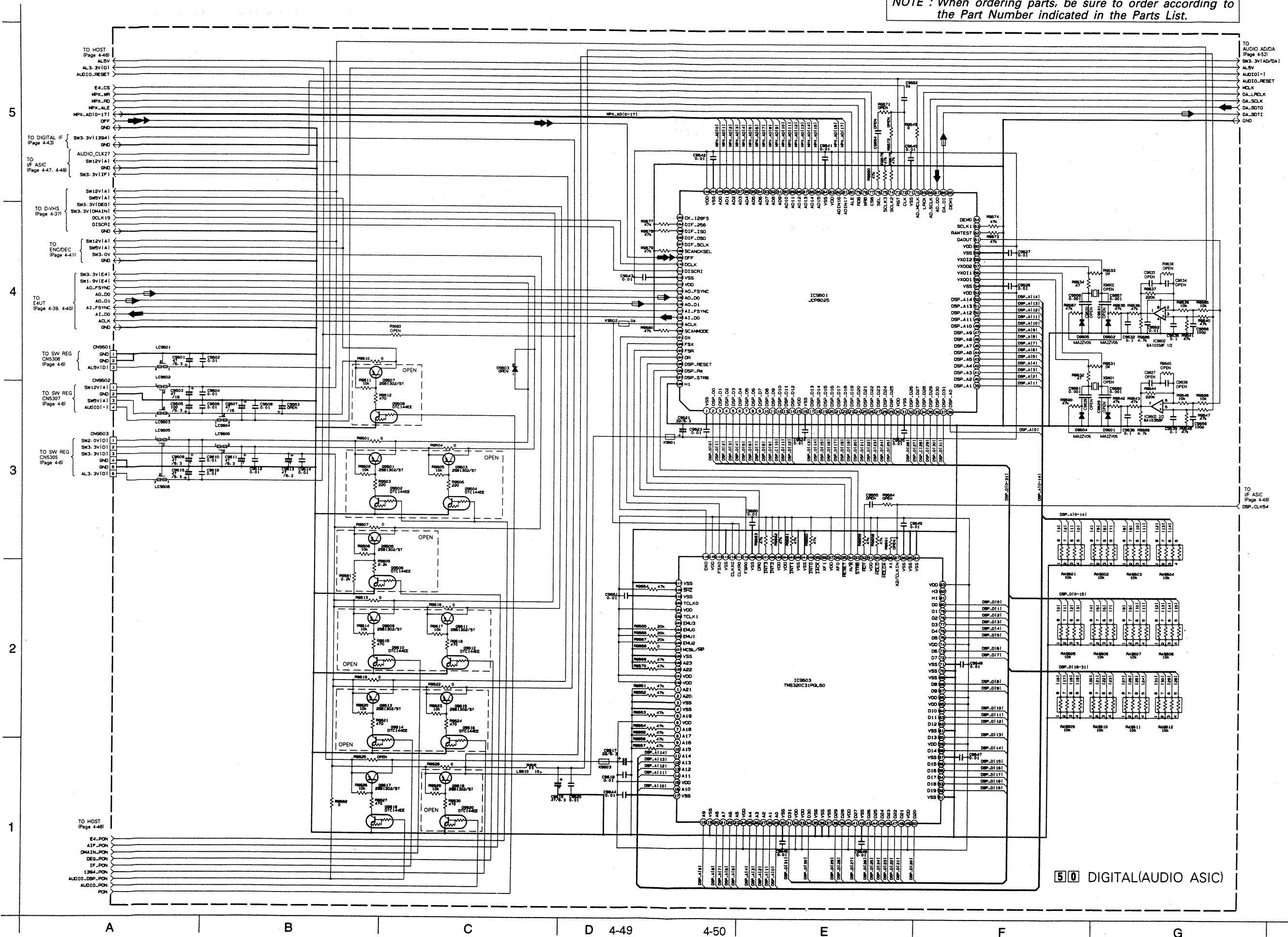


1

50 DIGITAL(I/F ASIC)

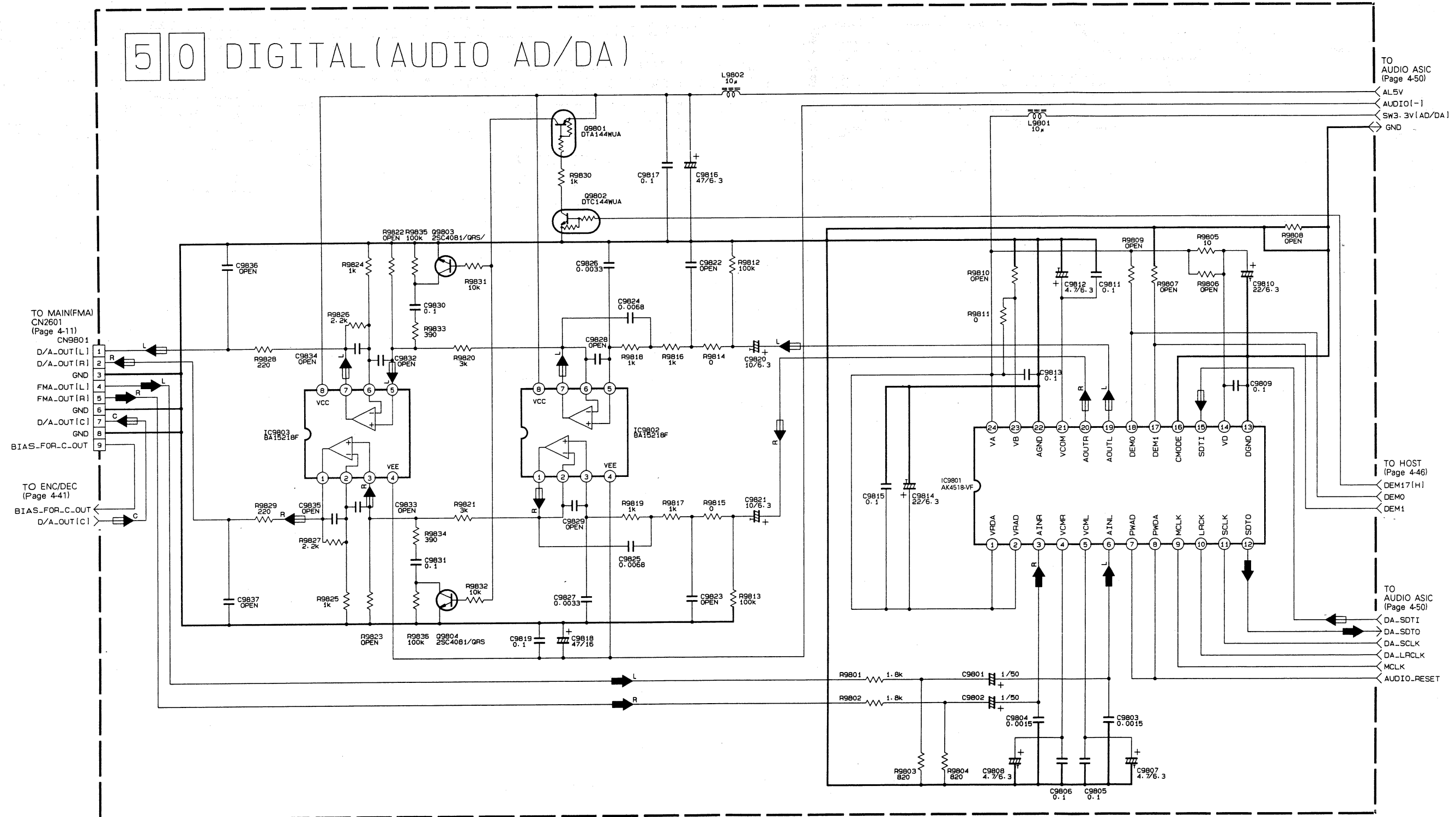


NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

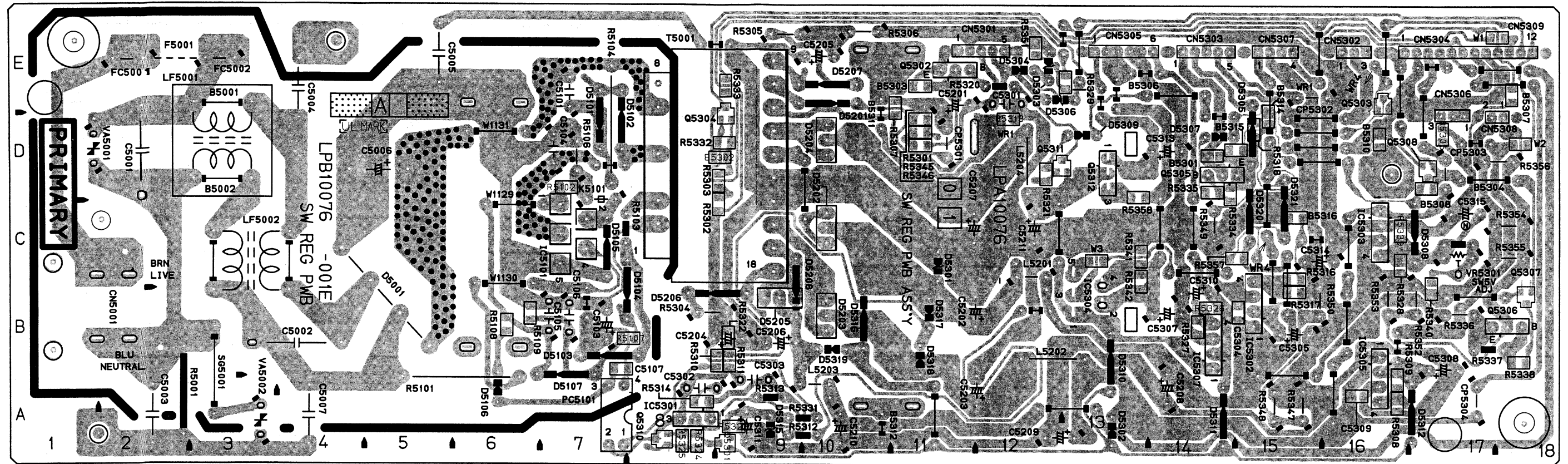


4.25 AUDIO AD/DA SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



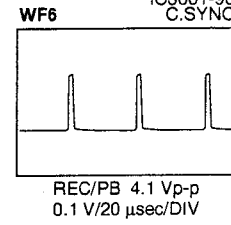
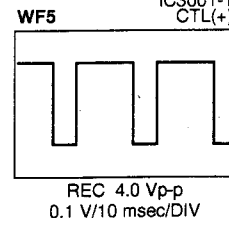
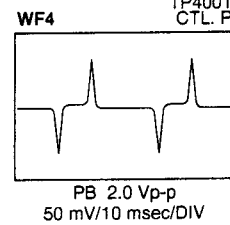
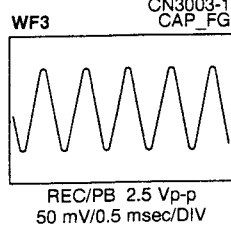
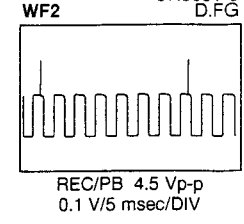
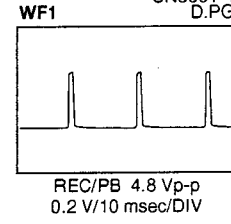
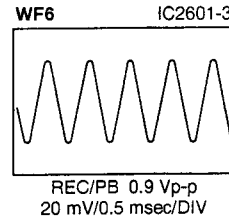
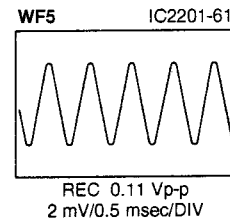
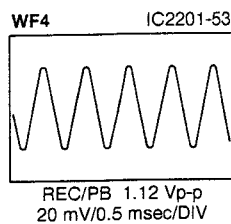
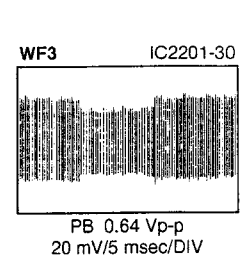
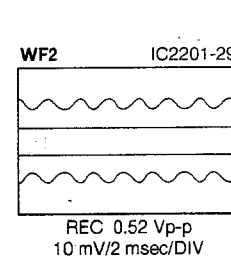
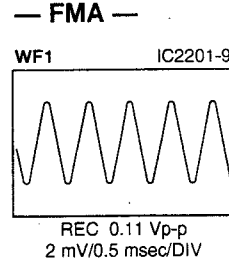
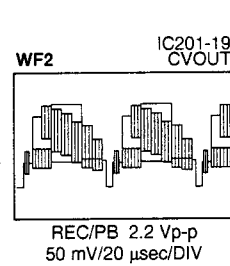
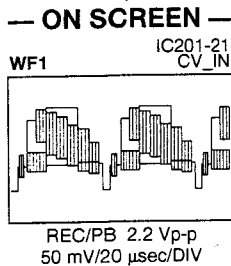
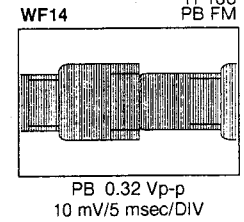
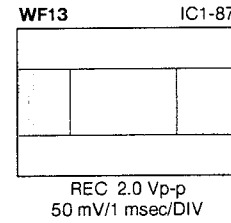
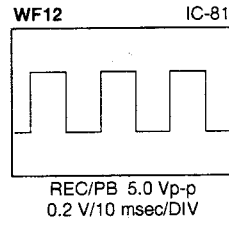
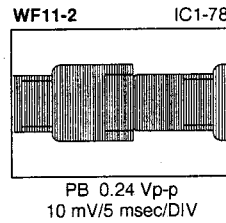
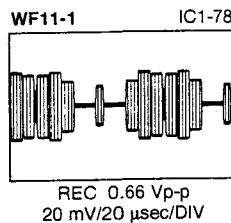
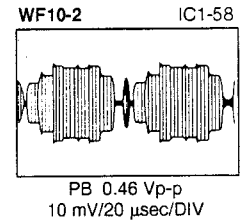
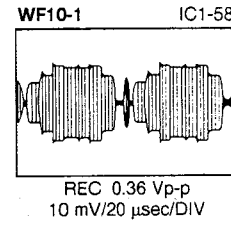
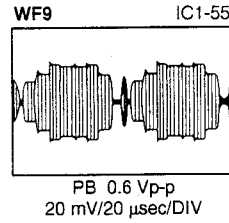
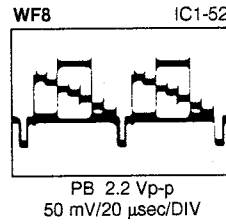
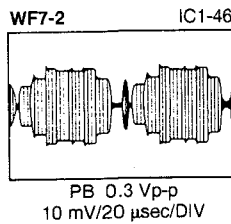
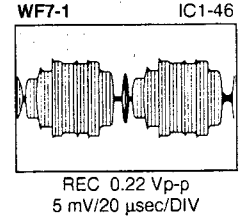
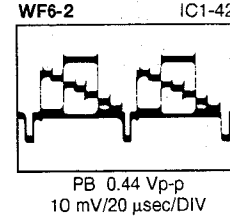
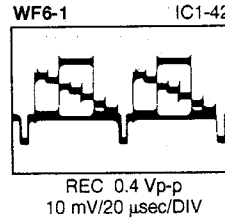
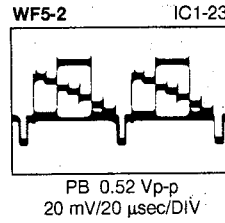
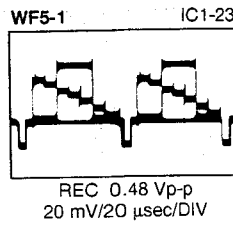
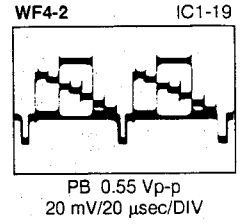
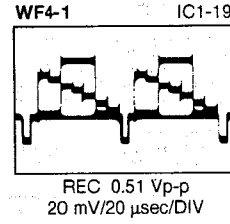
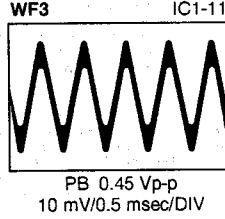
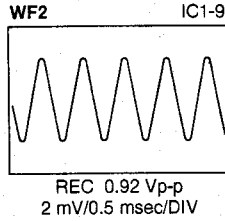
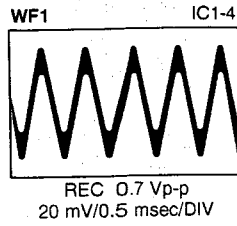
4.26 SWITCHING REGULATOR CIRCUIT BOARD



COMPONENT PARTS LOCATION GUIDE <SW REGULATOR>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C5208	A D 14B	CN5303	A D 14E	D5207	A D 10E	IC		Q5308	B C 17D	R5308	B C 16A	R5333	B C 9E	R5357	B C 15C
C5001	A D 2E	C5209	A D 13A	CN5304	A D 16E	D5208	A D 9C	IC5101	A D 7C	Q5310	B C 8A	R5309	B C 16A	R5334	B C 14D	R5358	B C 13D
C5002	A D 4B	C5210	A D 10A	CN5305	A D 13E	D5301	A D 11C	IC5301	A D 8A	Q5311	B C 13D	R5310	B C 9B	R5335	B C 14D	VR5301	A D 17C
C5003	A D 2A	C5211	A D 12C	CN5306	A D 17E	D5302	A D 13A	IC5302	A D 15B	Q5312	A D 13D	R5311	B C 9B	R5336	A D 17B	OTHER	
C5004	A D 4E	C5301	A D 12E	CN5307	A D 15E	D5303	A D 12E	IC5303	A D 16C	RESISTOR		R5312	A D 9A	R5337	A D 17B	CP5301	A D 11D
C5005	A D 5E	C5302	A D 8A	CN5308	A D 18D	D5304	A D 12E	IC5304	A D 13B	R5001	A D 2B	R5313	A D 9A	R5338	B C 18B	CP5302	A D 15E
C5006	A D 5D	C5303	A D 9A	DIODE		D5305	A D 15D	IC5305	A D 16B	R5101	A D 5A	R5314	B C 8A	R5339	B C 16C	CP5303	A D 17D
C5007	A D 4A	C5304	B C 15B	D5001	A D 5B	D5306	A D 12E	IC5307	A D 14B	R5102	B C 7D	R5316	B C 15C	R5340	B C 17C	CP5304	A D 17A
C5101	A D 7E	C5305	A D 15B	D5101	A D 7E	D5307	A D 14D	COIL		R5103	A D 7C	R5317	B C 15B	R5341	B C 13C	F5001	A D 2E
C5103	A D 7B	C5307	A D 14B	D5102	A D 7D	D5308	A D 17D	L5201	A D 12C	R5104	A D 7E	R5318	B C 15D	R5342	B C 13C	K5101	A D 7D
C5104	A D 7D	C5308	A D 17B	D5103	A D 8B	D5309	A D 13D	L5202	A D 12B	R5106	A D 7D	R5320	A D 12E	R5345	B C 11D	LF5001	A D 3D
C5105	A D 7B	C5309	B C 16A	D5104	A D 8C	D5310	A D 13A	L5203	A D 9A	R5107	B C 8B	R5321	B C 12D	R5346	B C 11D	LF5002	A D 4C
C5106	A D 7B	C5310	A D 14B	D5105	A D 7C	D5311	A D 14A	L5204	A D 12D	R5108	B C 6B	R5322	B C 9B	R5347	A D 15A	PC5101	A D 7A
C5107	B C 7B	C5311	A D 9A	D5106	A D 6A	D5312	A D 17A	TRANSISTOR		R5109	B C 6B	R5323	B C 9A	R5348	A D 15A	SG5001	A D 3A
C5201	A D 11E	C5313	A D 14D	D5107	A D 7B	D5315	A D 9A	Q5301	B C 9A	R5324	B C 8A	R5324	B C 8A	R5349	A D 14C	VA5001	A D 8C
C5202	A D 12B	C5314	A D 16C	D5108	A D 9E	D5316	A D 10B	Q5302	A D 11E	R5325	B C 8A	R5325	B C 8A	R5350	A D 15B	VA5002	A D 1D
C5203	A D 12A	C5315	A D 17C	D5201	A D 10C	D5317	A D 10B	Q5303	B C 16E	R5326	B C 14B	R5326	B C 14B	R5351	B C 12E		
C5204	A D 8B	CONNECTOR		D5202	A D 10D	D5318	A D 11B	Q5304	B C 9E	R5327	B C 14B	R5327	B C 14B	R5352	A D 17B		
C5205	A D 10E	CN5001	A D 1B	D5203	A D 10B	D5319	A D 10B	Q5305	A D 15D	R5328	B C 16C	R5328	B C 16C	R5353	A D 16B		
C5206	A D 9B	CN5301	A D 11E	D5204	A D 10D	D5320	A D 15C	Q5306	A D 17B	R5329	B C 13E	R5329	B C 13E	R5354	A D 17C		
C5207	A D 11C	CN5302	A D 16E	D5205	A D 9B	D5321	A D 15C	Q5307	B C 18B	R5330	A D 10E	R5330	A D 10E	R5355	A D 17C		
				D5206	A D 9B					R5331	A D 9A	R5331	A D 9A	R5356	A D 17D		

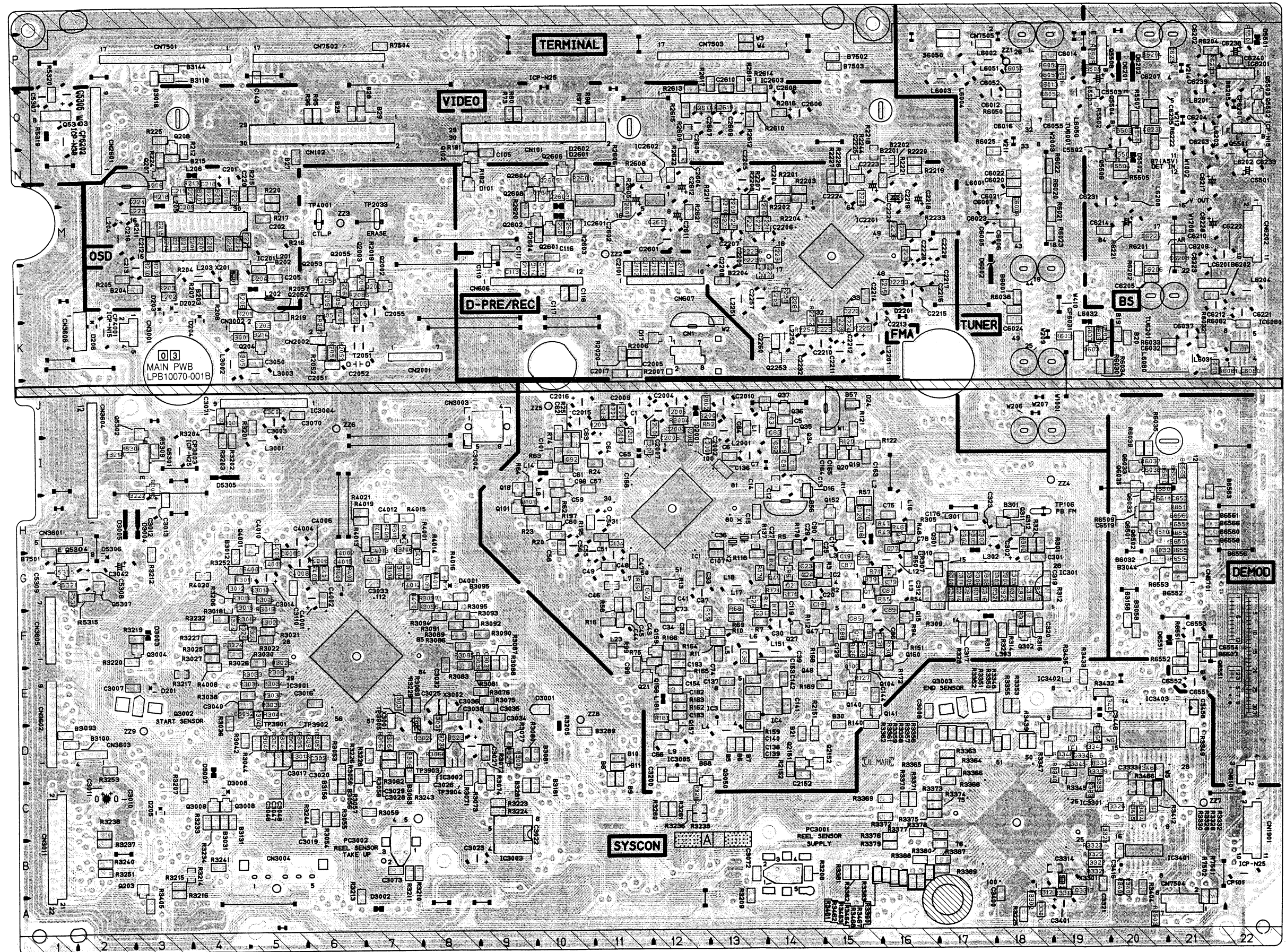
WAVEFORMS <MAIN> — VIDEO/N.AUDIO —



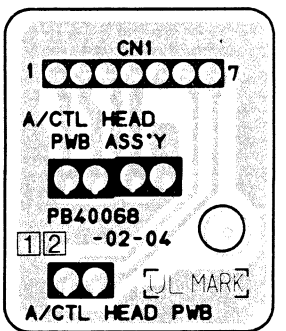
COMPONENT PARTS LOCATION GUIDE <MAIN>

[illegible]

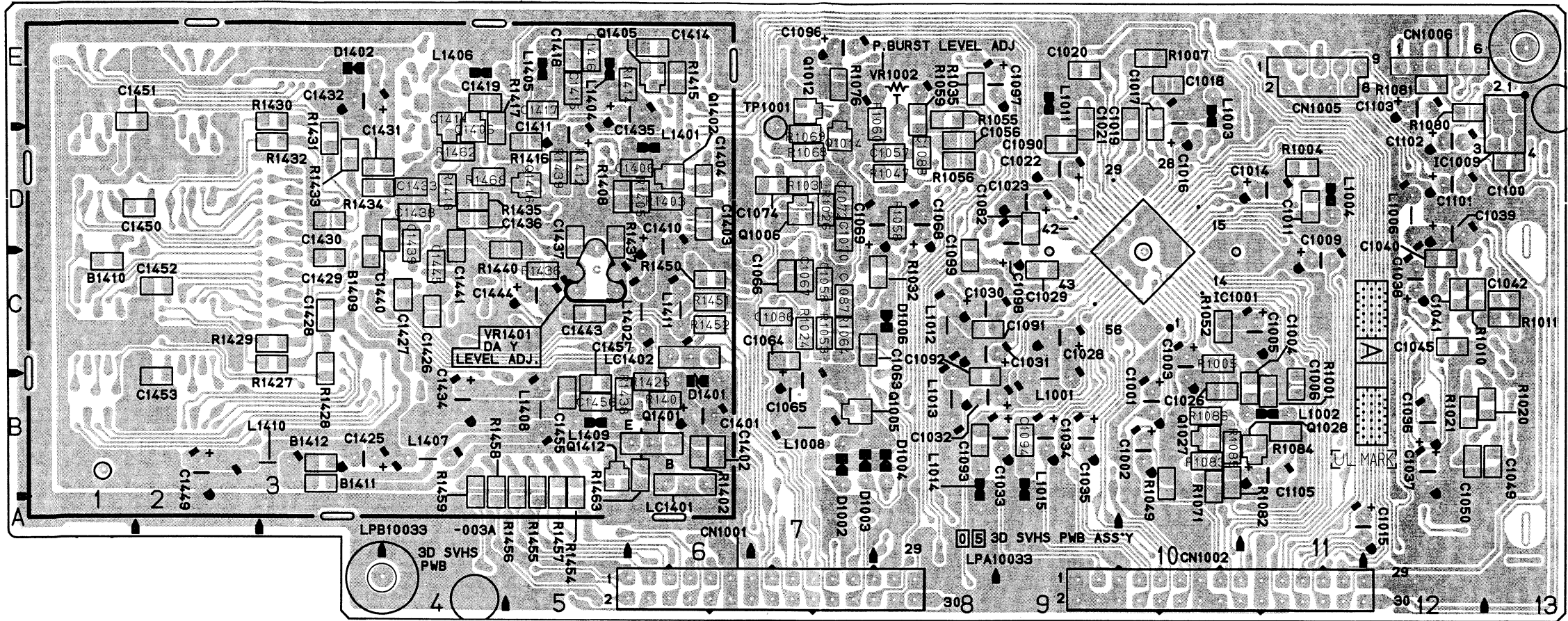
4.27 MAIN AND A/C HEAD CIRCUIT BOARDS



— A/C HEAD —



4.28 3D SVHS CIRCUIT BOARD
— FOIL SIDE (B) —



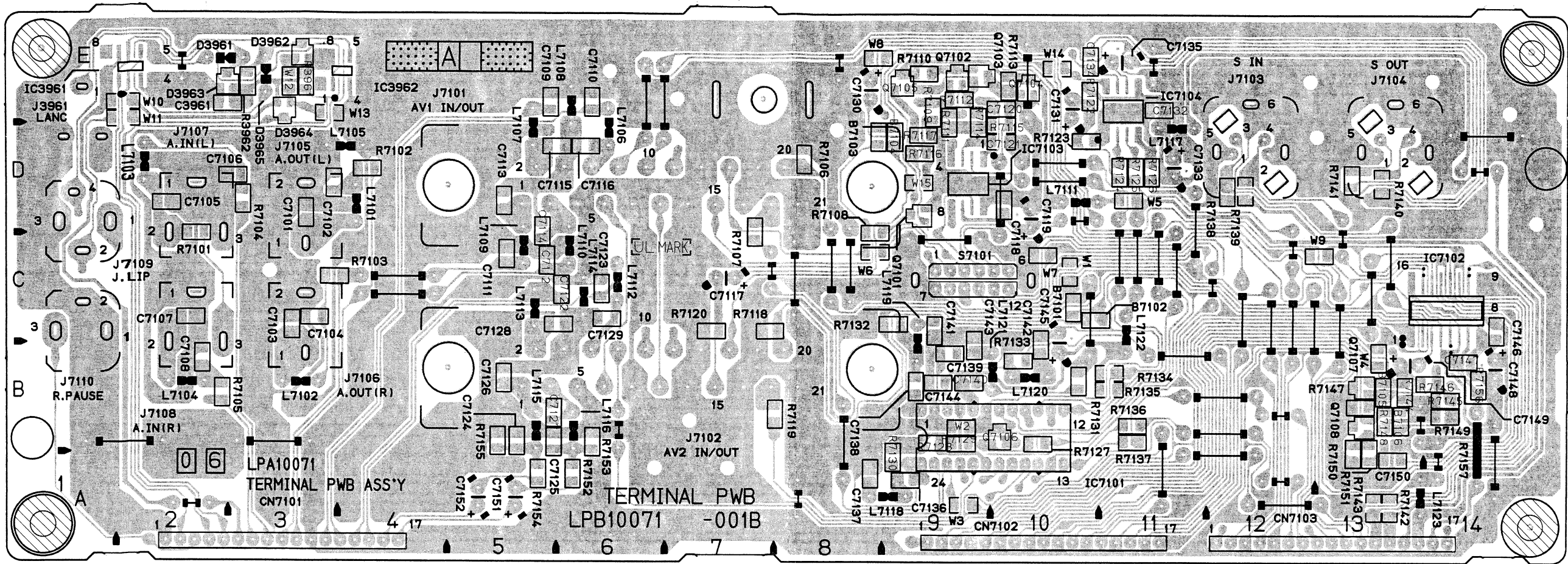
COMPONENT PARTS LOCATION GUIDE <3D SVHS>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C1036	A D 12B	C1089	A C 7E	C1420	A C 5D	C1456	B C 5B	IC1008	A C 8C	Q1012	B C 7E	R1009	A C 9C	R1056	B C 8D
C1001	A D 10B	C1037	A D 12B	C1090	B C 9D	C1421	A C 5E	C1457	B C 5B	IC1009	A C 13E	Q1014	B C 7D	R1010	B C 12C	R1058	B C 8D
C1002	A D 10B	C1038	A D 12C	C1091	B C 8C	C1422	A C 4E	C1458	B C 5C	IC1010	A C 13E	Q1015	B C 7E	R1011	B C 13C	R1059	B C 8E
C1003	A D 10C	C1039	A D 12D	C1092	B C 8B	C1423	A C 4E	C1459	A C 6E	IC1011	A C 4D	Q1016	A C 10C	R1012	A C 12C	R1060	B C 8E
C1004	A C 11B	C1040	A C 12C	C1093	B C 8B	C1424	A C 5D	C1460	A C 6E	IC1012	A C 4D	Q1017	A C 9D	R1013	A C 13C	R1061	B C 8E
C1005	A C 11C	C1041	B C 12C	C1094	B C 9B	C1425	A C 3B	C1461	A C 6D	IC1013	A C 4D	Q1018	A C 13C	R1014	A C 13C	R1062	B C 7B
C1006	A C 11B	C1042	B C 13C	C1095	A C 10D	C1426	A C 4C	C1462	A C 6C	IC1014	A C 4D	Q1019	A C 13C	R1015	A C 13C	R1063	B C 7B
C1007	A C 10C	C1043	A C 12C	C1096	A C 7E	C1427	A C 4C	C1463	A C 6C	IC1015	A C 4D	Q1020	A C 12B	R1016	A C 12B	R1064	B C 7C
C1008	A C 9D	C1044	A C 13C	C1097	A D 9E	C1428	A C 3C	C1464	A C 6C	IC1016	A C 4D	Q1021	A C 13B	R1017	A C 13B	R1065	B C 7E
C1009	A C 11C	C1045	A C 12C	C1098	A D 9C	C1429	A C 3C	C1465	A C 6C	IC1017	A C 4D	Q1022	A C 13B	R1018	A C 13B	R1066	B C 7D
C1010	A C 10D	C1046	A C 13C	C1099	B C 8C	C1430	B C 3D	C1466	A C 5B	IC1018	A C 4D	Q1023	A C 13B	R1019	A C 12B	R1067	B C 7E
C1011	A C 11D	C1047	A C 12B	C1100	B C 13D	C1431	B C 3D	C1467	A C 5B	IC1019	A C 4D	Q1024	A C 13B	R1020	A C 13B	R1068	B C 7D
C1012	A C 11D	C1048	A C 13B	C1101	A D 12D	C1432	A C 3E	C1468	A C 5B	IC1020	A C 4D	Q1025	A C 13B	R1021	A C 13B	R1069	B C 7D
C1013	A C 9C	C1049	A C 13B	C1102	A D 12D	C1433	A C 3D	C1469	A C 5B	IC1021	A C 4D	Q1026	A C 13B	R1022	A C 13B	R1070	B C 9D
C1014	A D 11D	C1050	B C 12B	C1103	A C 12E	C1434	A D 4B	C1470	A C 5B	IC1022	A C 4D	Q1027	A C 13B	R1023	A C 13B	R1071	B C 10B
C1015	A D 12A	C1051	B C 8D	C1104	A C 13D	C1435	A D 5E	C1471	A C 5B	IC1023	A C 4D	Q1028	A C 13B	R1024	A C 7C	R1072	A C 12B
C1016	A D 10D	C1052	B C 8D	C1105	A C 11B	C1436	A D 4D	C1472	A C 5B	IC1024	A C 4D	Q1029	A C 13B	R1025	A C 7C	R1073	A C 12B
C1017	B C 10E	C1053	B C 7C	C1401	A D 6B	C1437	A C 5D	C1473	A C 4B	IC1025	A C 4D	Q1030	A C 13B	R1026	A C 7D	R1074	A C 12B
C1018	B C 10E	C1054	B C 7C	C1402	A D 6B	C1438	B C 4D	CONNECTOR		IC1026	A C 4D	Q1031	A C 13B	R1027	A C 7D	R1075	A C 12B
C1019	B C 10E	C1055	B C 7C	C1403	B C 6D	C1439	B C 4D	CN1001	A D 6A	IC1027	A C 4D	Q1032	A C 13B	R1028	A C 7D	R1076	A C 12B
C1020	B C 9E	C1056	B C 7C	C1404	B C 6D	C1440	B C 4D	CN1002	A D 9A	IC1028	A C 4D	Q1033	A C 13B	R1029	A C 7D	R1077	A C 12B
C1021	B C 9E	C1057	B C 7C	C1405	A C 6D	C1441	B C 4D	CN1003	A D 11E	IC1029	A C 4D	Q1034	A C 13B	R1030	A C 7D	R1078	A C 12B
C1022	A D 9D	C1058	B C 7C	C1406	A C 6D	C1442	A C 5D	CN1004	A D 12E	IC1030	A C 4D	Q1035	A C 13B	R1031	A C 7D	R1079	A C 12B
C1023	A D 9D	C1059	B C 7C	C1407	A C 5D	C1443	A C 5C	DIODE		IC1031	A C 4D	Q1036	A C 13B	R1032	A C 7D	R1080	A C 12E
C1024	A C 9C	C1060	B C 7C	C1408	A C 5D	C1444	A C 5C	D1002	A D 7B	IC1032	A C 4D	Q1037	A C 13B	R1033	A C 7D	R1081	A C 12E
C1025	A C 9C	C1061	B C 7C	C1409	A C 5D	C1445	A C 4C	D1003	A D 7B	IC1033	A C 4D	Q1038	A C 13B	R1034	A C 7D	R1082	A C 12E
C1026	A C 10B	C1062	B C 7C	C1410	A C 5D	C1446	A C 4C	D1004	A D 8B	IC1034	A C 4D	Q1039	A C 13B	R1035	A C 7D	R1083	A C 12E
C1027	A C 10D	C1063	B C 7C	C1411	A C 5D	C1447	A C 4C	D1005	A D 8B	IC1035	A C 4D	Q1040	A C 13B	R1036	A C 7D	R1084	A C 12E
C1028	A C 9C	C1064	B C 7C	C1412	A C 5D	C1448	A C 4C	D1006	A D 8C	IC1036	A C 4D	Q1041	A C 13B	R1037	A C 7D	R1085	A C 12E
C1029	A C 8C	C1065	B C 7C	C1413	A C 5D	C1449	A C 4C	D1007	A D 8C	IC1037	A C 4D	Q1042	A C 13B	R1038	A C 7D	R1086	A C 12E
C1030	A C 8C	C1066	B C 7C	C1414	A C 5D	C1450	A C 4C	D1008	A D 8C	IC1038	A C 4D	Q1043	A C 13B	R1039	A C 7D	R1087	A C 12E
C1031	A C 9C	C1067	B C 7C	C1415	A C 5D	C1451	A C 4C	D1009	A D 8C	IC1039	A C 4D	Q1044	A C 13B	R1040	A C 7D	R1088	A C 12E
C1032	A C 9C	C1068	B C 7C	C1416	A C 5D	C1452	A C 4C	D1010	A D 8C	IC1040	A C 4D	Q1045	A C 13B	R1041	A C 7D	R1089	A C 12E
C1033	A C 9C	C1069	B C 7C	C1417	A C 5D	C1453	A C 4C	D1011	A D 8C	IC1041	A C 4D	Q1046	A C 13B	R1042	A C 7D	R1090	A C 12E
C1034	A C 9C	C1070	B C 7C	C1418	A C 5D	C1454	A C 4C	D1012	A D 8C	IC1042	A C 4D	Q1047	A C 13B	R1043	A C 7D	R1091	A C 12E
C1035	A C 9C	C1071	B C 7C	C1419	A C 5D	C1455	A C 4C	D1013	A D 8C	IC1043	A C 4D	Q1048	A C 13B	R1044	A C 7D	R1092	A C 12E
TRANSISTOR		C1072	A C 7D	C1420	A C 5D	C1456	A C 4C	IC		IC1044	A C 4D	Q1049	A C 13B	R1045	A C 7D	R1093	A C 12E
IC		C1073	A C 7D	C1421	A C 5D	C1457	A C 4C	IC1001	A C 11D	IC1045	A C 4D	Q1050	A C 13B	R1046	A C 7D	R1094	A C 12E
RESISTOR		C1074	A C 7D	C1422	A C 5D	C1458	A C 4C	IC1002	A C 11D	IC1046	A C 4D	Q1051	A C 13B	R1047	A C 7D	R1095	A C 12E
OTHER		C1075	A C 7D	C1423	A C 5D	C1459	A C 4C	IC1003	A C 11D	IC1047	A C 4D	Q1052	A C 13B	R1048	A C 7D	R1096	A C 12E
		C1076	A C 7D	C1424	A C 5D	C1460	A C 4C	IC1004	A C 11D	IC1048	A C 4D	Q1053	A C 13B	R1049	A C 7D	R1097	A C 12E
		C1077	A C 7D	C1425	A C 5D	C1461	A C 4C	IC1005	A C 11D	IC1049	A C 4D	Q1054	A C 13B	R1050	A C 7D	R1098	A C 12E
		C1078	A C 7D	C1426	A C 5D	C1462	A C 4C	IC1006	A C 11D	IC1050	A C 4D	Q1055	A C 13B	R1051	A C 7D	R1099	A C 12E
		C1079	A C 7D	C1427	A C 5D	C1463	A C 4C	IC1007	A C 11D	IC1051	A C 4D	Q1056	A C 13B	R1052	A C 7D	R1100	A C 12E
		C1080	A C 7D	C1428	A C 5D	C1464	A C 4C			IC1052	A C 4D	Q1057	A C 13B	R1053	A C 7D	R1101	A C 12E
		C1081	A C 7D	C1429	A C 5D	C1465	A C 4C			IC1053	A C 4D	Q1058	A C 13B	R1054	A C 7D	R1102	A C 12E
		C1082	A C 7D	C1430	A C 5D	C1466	A C 4C			IC1054	A C 4D	Q1059	A C 13B	R1055	A C 7D	R1103	A C 12E
		C1083	A C 7D	C1431	A C 5D	C1467	A C 4C			IC1055	A C 4D	Q1060	A C 13B	R1056	A C 7D	R1104	A C 12E
		C1084	A C 7D	C1432	A C 5D	C1468	A C 4C			IC1056	A C 4D	Q1061	A C 13B	R1057	A C 7D	R1105	A C 12E
		C1085	A C 7D	C1433	A C 5D	C1469	A C 4C			IC1057	A C 4D	Q1062	A C 13B	R1058	A C 7D	R1106	A C 12E
		C1086	A C 7D	C1434	A C 5D	C1470	A C 4C			IC1058	A C 4D	Q1063	A C 13B	R1059	A C 7D	R1107	A C 12E
		C1087	A C 7D	C1435	A C 5D	C1471	A C 4C			IC1059	A C 4D	Q1064	A C 13B	R1060	A C 7D	R1108	A C 12E
		C1088	A C 7D	C1436	A C 5D	C1472	A C 4C			IC1060	A C 4D	Q1065	A C 13B	R1061	A C 7D	R1109	A C 12E

Figure 1 displays 18 oscilloscope waveforms arranged in two rows and nine columns. Each waveform is labeled with a name and an IC model number. The waveforms show different signal types: REC (Rectified), PB (Pulsed), and REC/PB (Rectified/Pulsed). The captions provide the signal type, amplitude (Vp-p), and scale (mV/20 μsec/DIV).

Waveform Name	IC Model	Signal Type	Amplitude (Vp-p)	Scale (mV/20 μsec/DIV)
WF1	CN1002-7	REC	0.8	20 mV/20 μsec/DIV
WF2	IC1001-46	REC	1.0	20 mV/20 μsec/DIV
WF3-1	IC1001-43	REC	0.56	20 mV/20 μsec/DIV
WF3-2	IC1001-43	REC/PB	0.57	20 mV/20 μsec/DIV
WF4-1	IC1001-39	REC	1.8	50 mV/20 μsec/DIV
WF4-2	IC1001-39	REC/PB	1.7	50 mV/20 μsec/DIV
WF5	IC1001-37	REC/PB	0.82	20 mV/20 μsec/DIV
WF6	IC1001-35	REC/PB	0.68	20 mV/20 μsec/DIV
WF7-1	IC1001-33	REC	0.36	10 mV/20 μsec/DIV
WF7-2	IC1001-33	PB	0.46	10 mV/20 μsec/DIV
WF8	IC1001-28	REC	0.7	20 mV/20 μsec/DIV
WF9	IC1001-26	REC/PB	1.5	50 mV/20 μsec/DIV
WF10	IC1001-25	REC/PB	2.2	50 mV/20 μsec/DIV
WF11	IC1001-23	REC/PB	2.2	50 mV/20 μsec/DIV
WF12	IC1001-21	REC/PB	2.2	50 mV/20 μsec/DIV
WF13	IC1001-15	REC	2.2	20 mV/20 μsec/DIV
WF14	IC1001-5	PB	0.6	20 mV/20 μsec/DIV
WF15-1	IC1001-56	REC	0.42	10 mV/20 μsec/DIV
WF15-2	IC1001-56	PB	0.52	20 mV/20 μsec/DIV
WF16	CN1001-22	PB	0.62	20 mV/20 μsec/DIV

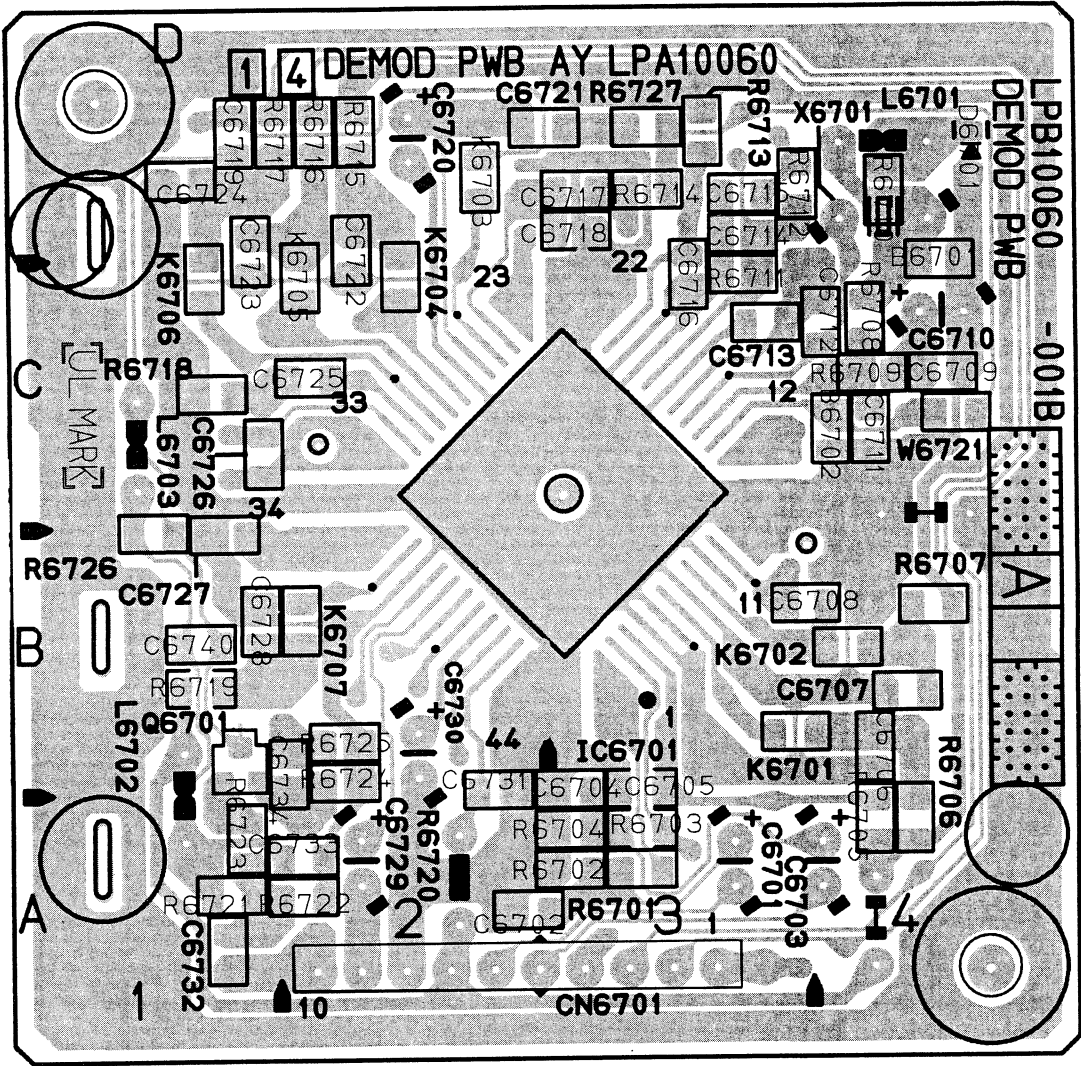
4.29 TERMINAL CIRCUIT BOARD



COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR				C7120	B C 10E	C7141	B C 9C	D3964	B C 3E	COIL					
C3961	B C 2E	C7121	B C 10D	C7142	B C 10B	D3965	A D 3E	L7102	A D 3B	L7122	A D 11C	R7108	B C 8D	R7130	B C 9A
C7101	B C 3D	C7122	B C 6C	C7143	B C 9B	IC		L7103	A D 2D	L7123	A D 13A	R7109	B C 9E	R7131	B C 10B
C7102	B C 3D	C7123	B C 6C	C7144	B C 9B	IC3961	B C 2E	L7104	A D 2B	TRANSISTOR					
C7103	B C 3C	C7124	B C 5B	C7145	A D 10B	IC7101	A D 9B	L7105	A D 3D	Q7101	B C 9D	R7111	B C 9E	R7133	B C 10B
C7104	B C 3C	C7125	B C 5B	C7146	B C 14C	IC7102	B C 14C	L7106	A D 6E	Q7102	B C 9E	R7112	B C 9E	R7134	B C 11B
C7105	B C 2D	C7126	B C 5B	C7147	B C 14B	IC7103	B C 9D	L7107	A D 5E	Q7103	B C 9E	R7113	B C 10E	R7135	B C 11B
C7106	B C 3D	C7127	B C 5B	C7148	A D 14B	IC7104	B C 11E	L7108	A D 6E	Q7104	B C 10E	R7114	B C 9E	R7136	B C 11B
C7107	B C 2C	C7128	B C 6C	C7149	A D 13B	JACK		L7109	A D 5C	Q7105	B C 9E	R7115	B C 10D	R7137	B C 11B
C7108	B C 2B	C7129	B C 6C	C7150	B C 13A	J3961	A D 1E	L7110	A D 6C	Q7106	B C 10B	R7116	B C 9D	R7138	B C 12D
C7109	B C 5E	C7130	A D 8E	C7151	A D 5A	J7101	A D 6D	L7111	A D 10D	Q7107	B C 13B	R7117	B C 9D	R7139	B C 12D
C7110	B C 6E	C7131	A D 10E	C7152	A D 5A	J7102	A D 6B	L7112	A D 6C	Q7108	B C 13B	R7118	B C 7C	R7140	B C 13D
C7111	B C 5C	C7132	B C 11E	CONNECTOR		J7103	A D 12D	L7113	A D 5C	RESISTOR					
C7112	B C 5C	C7133	A D 11D	CN7101	A D 2A	J7104	A D 13D	L7114	A D 6C	R3961	B C 3E	R7120	B C 7C	R7142	B C 13A
C7113	B C 5D	C7134	A D 10E	CN7102	A D 9A	J7105	A D 3D	L7115	A D 5B	R3962	B C 3E	R7122	B C 10E	R7143	B C 13A
C7114	B C 5D	C7135	A D 11E	CN7103	A D 12A	J7106	A D 3C	L7116	A D 6B	R7101	B C 2C	R7123	B C 10D	R7144	B C 13B
C7115	B C 6D	C7136	B C 9A	DIODE		J7107	A D 2D	L7117	A D 11D	R7103	B C 3C	R7124	B C 11D	R7145	B C 14B
C7116	B C 6D	C7137	B C 8A	D3961	A D 3E	J7108	A D 2C	L7118	A D 9A	R7104	B C 3D	R7125	B C 11D	R7146	B C 14B
C7117	A D 7C	C7138	B C 9B	D3962	B C 3E	J7109	A D 1D	L7119	A D 9B	R7105	B C 2B	R7126	B C 11D	R7147	B C 13B
C7118	B C 10D	C7139	B C 9B	D3963	B C 2E	J7110	A D 1C	L7120	A D 10B	R7106	B C 8D	R7127	B C 10B	R7148	B C 13B
C7119	A D 10D	C7140	B C 9B					L7121	A D 10B	R7107	B C 7D	R7128	B C 9B	R7149	B C 14B
												R7129	B C 9B	R7150	B C 13B

4.30 DEMODULATOR CIRCUIT BOARD

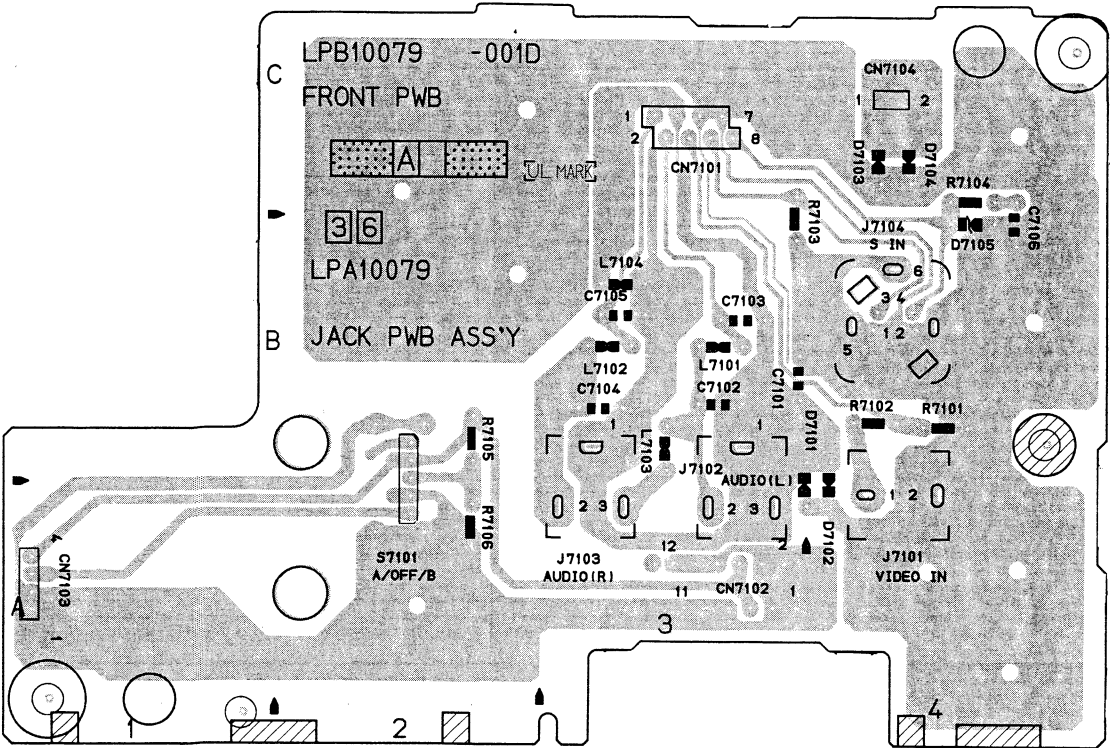


COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

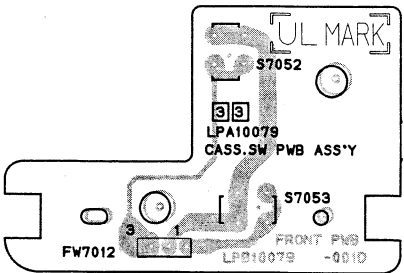
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C6719	B C 1D	CONNECTOR		RESISTOR		R6719	B C 1B
C6701	A D 3A	C6720	A D 2D	CN6701	A D 3A	R6701	B C 3A	R6720	A D 2A
C6702	B C 2A	C6721	B C 3D	DIODE		R6702	B C 3A	R6721	B C 1A
C6703	A D 4A	C6722	B C 2D	D6701	B C 4D	R6703	B C 3A	R6722	B C 2A
C6704	B C 3B	C6723	B C 1D	IC		R6704	B C 3A	R6723	B C 1A
C6705	B C 3B	C6724	B C 1D	IC6701	B C 3C	R6705	B C 4A	R6724	B C 2B
C6706	B C 4B	C6725	B C 2C	COIL		R6706	B C 4A	R6725	B C 2B
C6707	B C 4B	C6726	B C 1C	L6701	A D 4D	R6707	B C 4B	R6726	B C 1B
C6708	B C 3B	C6727	B C 1B	L6702	A D 1A	R6708	B C 4C	R6727	B C 3D
C6709	B C 4C	C6728	B C 1B	L6703	A D 1C	R6709	B C 4C	OTHER	
C6710	A D 4C	C6729	A D 2A	TRANSISTOR		R6710	B C 4D	K6701	B C 3B
C6711	B C 4C	C6730	A D 2B	Q6701	B C 1B	R6711	B C 3C	K6702	B C 4B
C6712	B C 4C	C6731	B C 2B			R6712	B C 3D	K6703	B C 2D
C6713	B C 3C	C6732	B C 1A			R6713	B C 3D	K6704	B C 2C
C6714	B C 3D	C6733	B C 2A			R6714	B C 3D	K6705	B C 2C
C6715	B C 3D	C6734	B C 2B			R6715	B C 2D	K6706	B C 1C
C6716	B C 3C					R6716	B C 2D	K6707	B C 2B
C6717	B C 3D					R6717	B C 2D	X6701	A D 4D
C6718	B C 3D					R6718	B C 1C		

4.31 DISPLAY, REC SAFETY, CASS. SW AND JACK CIRCUIT BOARDS

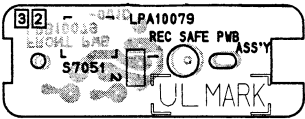
— JACK —



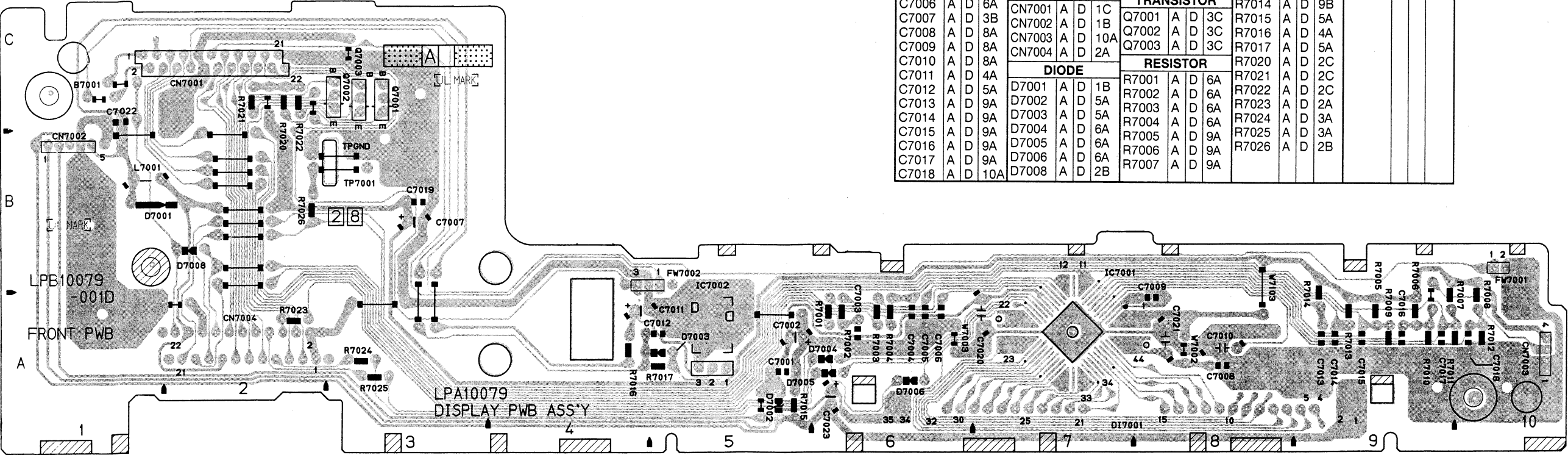
— CASS. SW —



— REC SAFETY —



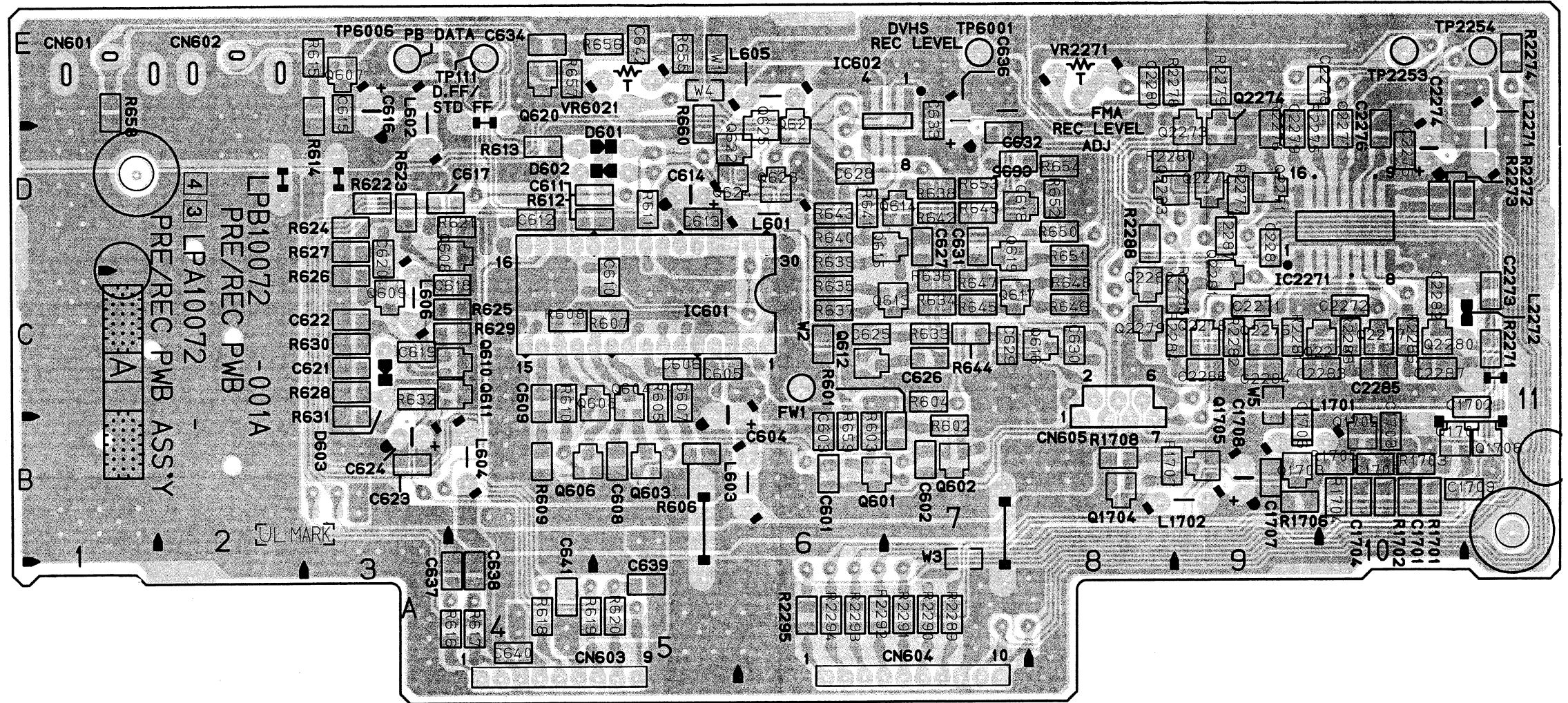
— DISPLAY —



COMPONENT PARTS LOCATION GUIDE <DISPLAY>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C7019	A D 3B	IC		R7008	A D 10A	OTHER	
C7001	A D 5A	C7020	A D 7A	IC7001	B C 7A	R7009	A D 9A	DI7001	A D 7A
C7002	A D 5A	C7021	A D 8A	IC7002	A D 5A	R7010	A D 9A	FW7001	A D 10B
C7003	A D 6A	C7022	A D 1C	COIL		R7011	A D 10A	FW7002	A D 5B
C7004	A D 6A	C7023	A D 6A	L7001	A D 1B	R7012	A D 10A	TP7001	A D 3B
C7005	A D 6A	CONNECTOR		TRANSISTOR		R7013	A D 9A	TPGND	A D 2B
C7006	A D 6A	CN7001	A D 1C	Q7001	A D 3C	R7014	A D 9B		
C7007	A D 3B	CN7002	A D 1B	Q7002	A D 3C	R7015	A D 5A		
C7008	A D 8A	CN7003	A D 10A	Q7003	A D 3C	R7016	A D 4A		
C7009	A D 8A	CN7004	A D 2A	RESISTOR		R7017	A D 5A		
C7010	A D 8A	DIODE		R7001	A D 6A	R7020	A D 2C		
C7011	A D 4A	D7001	A D 1B	R7002	A D 6A	R7021	A D 2C		
C7012	A D 5A	D7002	A D 5A	R7003	A D 6A	R7022	A D 2C		
C7013	A D 9A	D7003	A D 5A	R7004	A D 6A	R7023	A D 2A		
C7014	A D 9A	D7004	A D 6A	R7005	A D 9A	R7024	A D 3A		
C7015	A D 9A	D7005	A D 6A	R7006	A D 9A	R7025	A D 3A		
C7016	A D 9A	D7006	A D 6A	R7007	A D 9A	R7026	A D 2B		
C7017	A D 9A	D7007	A D 2B						
C7018	A D 10A								

4.32 PRE/REC CIRCUIT BOARD

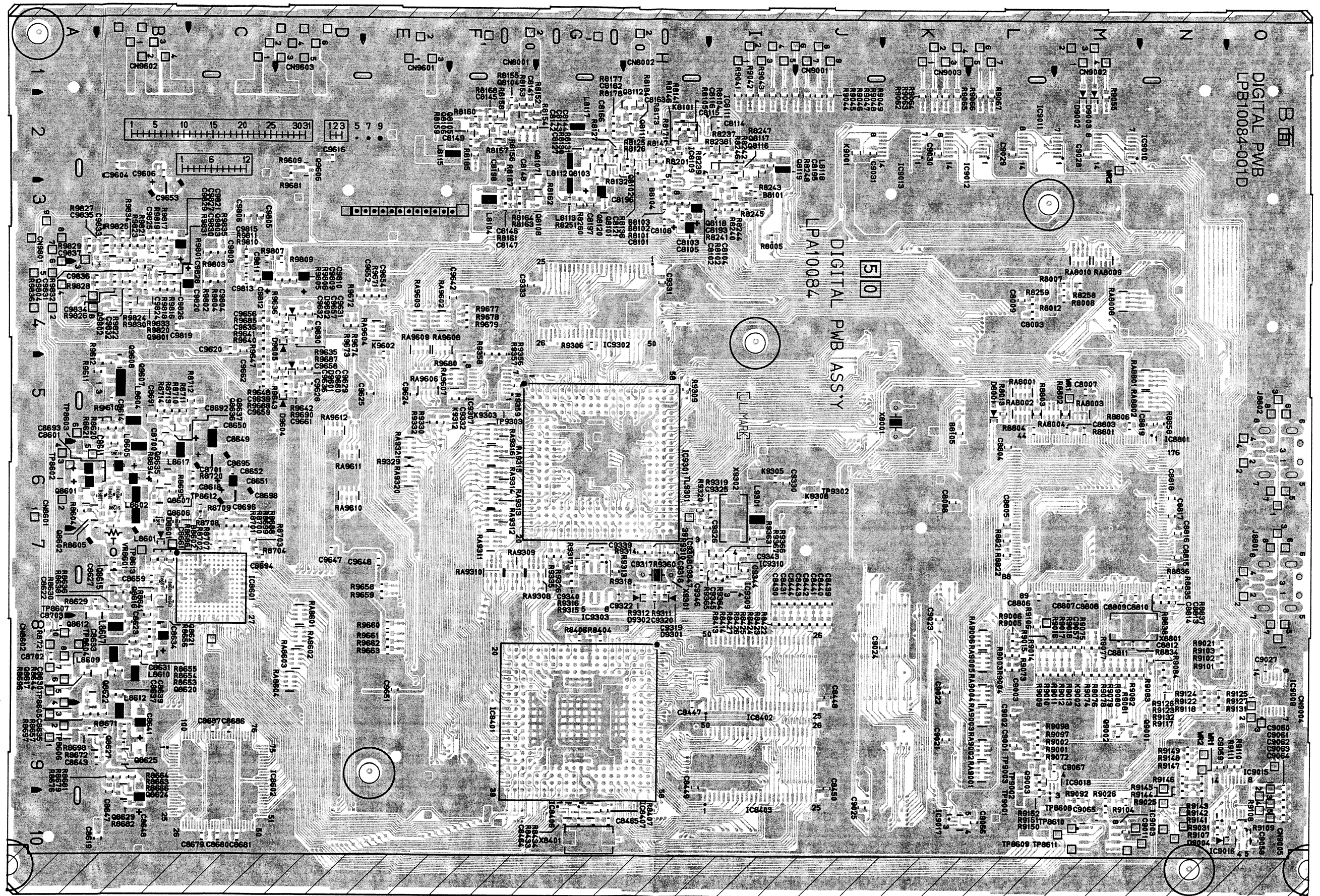


COMPONENT PARTS LOCATION GUIDE <PRE/REC>															
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C625	B C 6C	C1708	A D 9B	DIODE		Q604	B C 5C	Q1704	B C 8B	R608	B C 4C	R633	B C 7C
C601	B C 6B	C626	B C 7C	C1709	A C 11B	D601	A D 4D	Q605	B C 5C	Q1705	B C 9B	R609	B C 4B	R634	B C 7C
C602	B C 7B	C627	B C 7D	C2271	B C 9C	D602	A D 5D	Q606	B C 4B	Q1706	B C 11B	R610	B C 4C	R635	B C 6C
C603	B C 6B	C628	B C 6D	C2272	B C 10C	D603	A D 3C	Q607	B C 4E	Q2271	B C 9D	R611	B C 5D	R636	B C 7C
C604	A D 6B	C629	B C 7C	C2273	B C 11C	IC		Q608	B C 4D	Q2272	B C 9D	R612	B C 5D	R637	B C 6C
C605	B C 5C	C630	B C 8C	C2274	A D 10D	IC601	A D 6C	Q609	B C 3C	Q2273	B C 9D	R613	B C 4D	R638	B C 7D
C606	B C 5C	C631	B C 7D	C2275	B C 10D	IC602	B C 7E	Q610	B C 4C	Q2274	B C 9D	R614	B C 3E	R639	B C 6D
C607	B C 5C	C632	B C 7D	C2276	B C 10D	IC2271	B C 10D	Q611	B C 4C	Q2275	B C 10C	R615	B C 3E	R640	B C 6D
C608	B C 5B	C633	B C 7E	C2277	B C 10D	COIL		Q612	B C 6C	Q2276	B C 9C	R616	B C 4A	R641	B C 6D
C609	B C 4C	C634	B C 4E	C2278	B C 10E	L601	A D 6D	Q613	B C 7C	Q2277	B C 10C	R617	B C 4A	R642	B C 7D
C610	B C 5C	C635	B C 7D	C2279	B C 9D	L602	A D 3E	Q614	B C 7D	Q2278	B C 9C	R618	B C 4A	R643	B C 6D
C611	B C 5D	C636	A D 7D	C2280	B C 8E	L603	A D 6B	Q615	B C 7D	Q2279	B C 8C	R619	B C 4A	R644	B C 7C
C612	B C 4D	C637	B C 4A	C2281	B C 9D	L604	A D 4B	Q616	B C 8C	Q2280	B C 10C	R620	B C 5A	R645	B C 7C
C613	B C 5D	C638	B C 4A	C2282	B C 10C	L605	A D 6E	Q617	B C 7C	Q2281	B C 9C	R621	B C 4D	R646	B C 8C
C614	A D 5D	C639	B C 5A	C2283	B C 10C	L606	A D 3C	Q618	B C 7D	Q2282	B C 8C	R622	B C 3D	R647	B C 7C
C615	B C 3E	C640	B C 4A	C2284	B C 9C	L1701	A D 9B	Q619	B C 7D	Q2283	B C 8D	R623	B C 3D	R648	B C 8C
C616	A D 3E	C641	B C 4A	C2285	B C 10C	L1702	A D 8B	Q620	B C 4E	RESISTOR		R624	B C 3D	R649	B C 7D
C617	B C 3D	C642	B C 5E	C2286	B C 9C	L2271	A D 11D	Q621	B C 5D	R601	B C 7B	R625	B C 4C	R650	B C 8D
C618	B C 4C	C1701	B C 10B	C2287	B C 10C	L2272	A D 11C	Q622	B C 6D	R602	B C 7B	R626	B C 3C	R651	B C 8D
C619	B C 3C	C1702	B C 11C	CONNECTOR		TRANSISTOR		Q623	B C 6D	R603	B C 6B	R627	B C 3D	R652	B C 8D
C620	B C 3D	C1703	B C 10B	CN601	A D 1E	Q601	B C 6B	Q624	B C 5D	R604	B C 7C	R628	B C 3C	R653	B C 7D
C621	B C 3C	C1704	B C 10B	CN602	A D 2E	Q602	B C 7B	Q625	B C 6D	R605	B C 5C	R629	B C 4C	R654	B C 8D
C622	B C 3C	C1705	B C 10B	CN603	A D 4A	Q603	B C 5B	Q1701	B C 10B	R606	B C 5B	R630	B C 3C	R655	B C 5E
C623	B C 3B	C1706	B C 9B	CN604	A D 6A			Q1702	B C 10B	R631	B C 3B	R632	B C 3C	R656	B C 5E
C624	A D 3B	C1707	B C 9B	CN605	A D 8B			Q1703	B C 9B					R657	B C 4E

TEST POINT			
TP111	A D 4E	R2285	B C 9C
TP2253	A D 10E	R2286	B C 10C
TP2254	A D 11E	R2287	B C 9D
TP6001	A D 7E	R2288	B C 8D
TP6006	A D 3E	R2289	B C 7A
OTHER			
FW1	A D 6C	R2290	B C 7A
		R2291	B C 7A
		R2292	B C 6A
		R2293	B C 6A
		R2294	B C 6A
		R2295	B C 6A
		VR2271	A D 8E
		VR6021	A D 5E

4.33 DIGITAL CIRCUIT BOARD

— FOIL SIDE (B) —

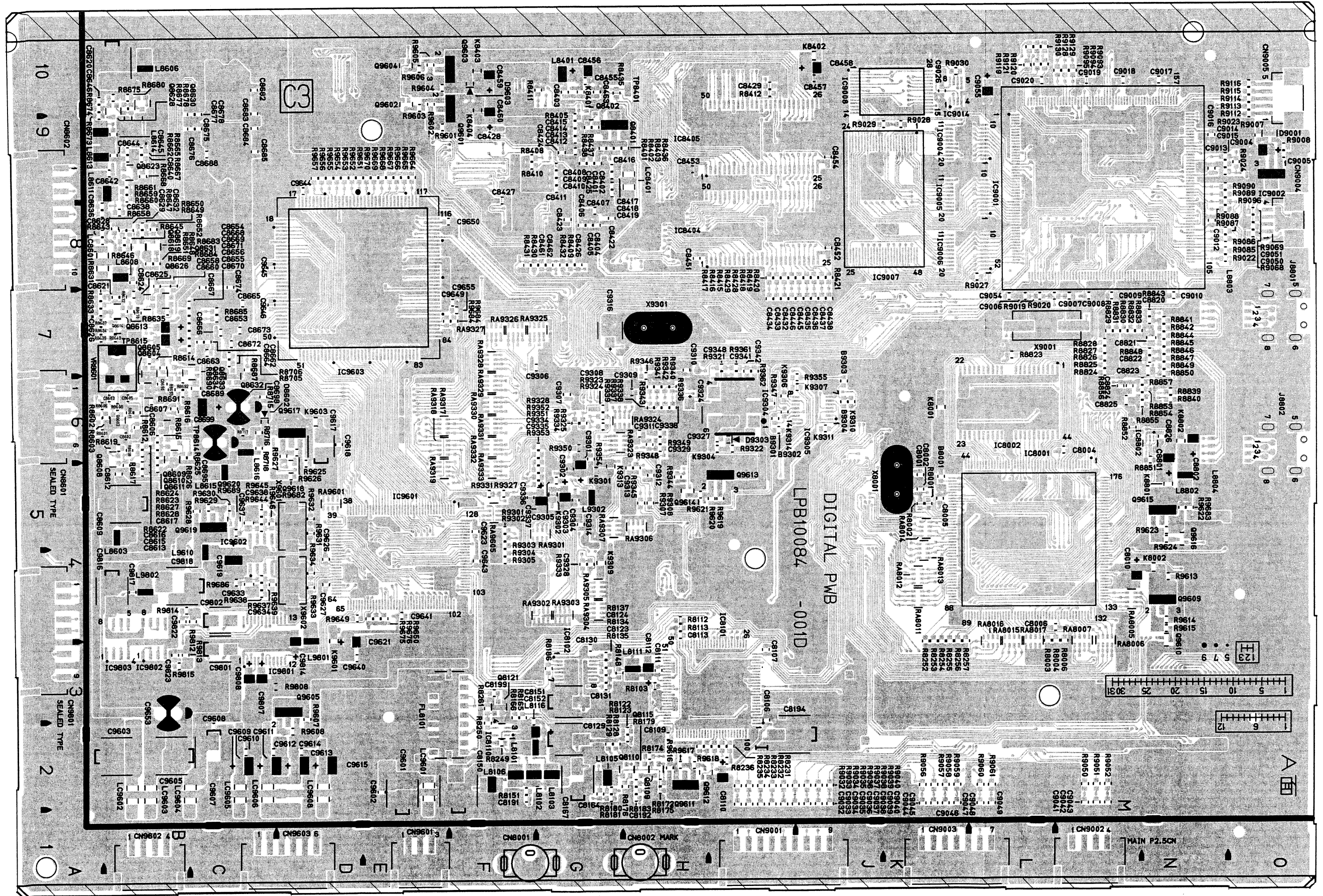


BEE NO	LOCATION	BEE NO	LOCATION	BEE NO	LOCAT
--------	----------	--------	----------	--------	-------

[illegible]

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION																	
R8175	A	C	2H	R8625	A	C	6C	R8824	A	A	C	6M	R9075	B	B	C	8M	R9340	A	A	C	6H	R9678	B	B	C	4F	RA9325	A	A	C	7G
R8176	A	C	2H	R8626	A	C	6B	R8825	A	A	C	7M	R9076	B	B	C	8M	R9341	A	A	C	6H	R9679	B	B	C	4F	RA9326	A	A	C	7F
R8177	A	C	2G	R8627	A	C	6B	R8826	A	A	C	7M	R9077	B	B	C	8M	R9342	A	A	C	6H	R9680	B	B	C	5F	RA9327	A	A	C	7F
R8178	A	C	2H	R8628	A	C	6B	R8827	A	A	C	7M	R9078	B	B	C	8M	R9343	A	A	C	6H	R9681	B	B	C	2D	RA9328	A	A	C	7F
R8179	A	C	2H	R8629	A	C	7A	R8828	A	A	C	7M	R9079	B	B	C	8M	R9344	A	A	C	5H	R9682	B	B	C	5D	RA9329	A	A	C	6F
R8180	A	C	2G	R8630	A	C	7B	R8829	A	A	C	7M	R9080	B	B	C	8M	R9345	A	A	C	5H	R9683	B	B	C	5N	RA9330	A	A	C	6F
R8181	A	C	2G	R8631	A	C	7B	R8830	A	A	C	7M	R9081	B	B	C	8M	R9346	A	A	C	6H	R9684	B	B	C	7F	RA9331	A	A	C	6F
R8183	A	C	2H	R8632	A	C	7A	R8831	A	A	C	7M	R9082	B	B	C	8M	R9347	A	A	C	6I	R9685	B	B	C	4C	RA9332	A	A	C	6F
R8184	A	C	2H	R8633	A	C	7A	R8832	A	A	C	7M	R9083	B	B	C	8M	R9348	A	A	C	6H	R9686	B	B	C	4C	RA9333	A	A	C	5F
R8185	A	C	2F	R8634	A	C	7A	R8833	A	A	C	7M	R9084	B	B	C	8M	R9349	A	A	C	6H	R9687	B	B	C	4D	RA9601	A	A	C	5D
R8186	A	C	3G	R8635	A	C	7B	R8834	A	A	C	7M	R9085	B	B	C	8M	R9350	A	A	C	6G	R9688	B	B	C	5C	RA9602	A	A	C	4E
R8201	A	C	2H	R8636	A	C	7B	R8835	A	A	C	7M	R9086	B	B	C	8M	R9351	A	A	C	5G	R9689	B	B	C	5C	RA9603	A	A	C	4E
R8231	A	C	2I	R8637	A	C	7A	R8836	A	A	C	7M	R9087	B	B	C	8M	R9352	A	A	C	6G	R9690	B	B	C	5D	RA9604	A	A	C	4E
R8232	A	C	2I	R8638	A	C	7A	R8837	A	A	C	7M	R9088	B	B	C	8M	R9353	A	A	C	5G	R9691	B	B	C	7E	RA9605	A	A	C	5F
R8233	A	C	2I	R8639	A	C	7B	R8838	A	A	C	7M	R9089	B	B	C	9M	R9354	A	A	C	5G	R9692	B	B	C	3C	RA9606	A	A	C	5E
R8234	A	C	2H	R8640	A	C	7B	R8839	A	A	C	6N	R9090	B	B	C	9M	R9355	A	A	C	6J	R9693	B	B	C	4C	RA9607	A	A	C	5F
R8235	A	C	2H	R8641	A	C	7B	R8840	A	A	C	6N	R9092	B	B	C	10M	R9356	A	A	C	4F	R9694	B	B	C	3C	RA9608	A	A	C	4E
R8236	A	C	2I	R8642	A	C	7B	R8841	A	A	C	7N	R9093	B	B	C	10M	R9357	A	A	C	4F	R9695	B	B	C	4C	RA9609	A	A	C	4E
R8237	A	C	2I	R8643	A	C	8B	R8842	A	A	C	7N	R9094	B	B	C	10M	R9358	A	A	C	4F	R9696	B	B	C	4D	RA9610	A	A	C	6D
R8238	A	C	2I	R8644	A	C	8B	R8843	A	A	C	7N	R9095	B	B	C	10M	R9359	A	A	C	5F	R9697	B	B	C	4D	RA9611	A	A	C	6D
R8239	A	C	2I	R8645	A	C	8B	R8844	A	A	C	7N	R9096	B	B	C	8M	R9360	A	A	C	7H	R9698	B	B	C	3C	RA9612	A	A	C	5D
R8240	A	C	3I	R8646	A	C	8B	R8845	A	A	C	7N	R9097	B	B	C	9L	R9361	A	A	C	7I	R9699	B	B	C	3C	TEST POINT				
R8241	A	C	3I	R8647	A	C	8B	R8846	A	A	C	7N	R9098	B	B	C	9L	R9362	A	A	C	6I	R9700	B	B	C	3D	TP8401	A	A	C	10H
R8242	A	C	3I	R8648	A	C	8B	R8847	A	A	C	7N	R9101	B	B	C	8M	R9363	A	A	C	7I	R9701	B	B	C	3C	TP8602	A	A	C	6A
R8243	A	C	3I	R8649	A	C	8B	R8848	A	A	C	7N	R9102	B	B	C	8M	R9364	A	A	C	7I	R9702	B	B	C	3C	TP8603	A	A	C	6A
R8244	A	C	3I	R8650	A	C	8B	R8849	A	A	C	7N	R9103	B	B	C	8M	R9365	A	A	C	7I	R9703	B	B	C	3C	TP8604	A	A	C	8A
R8245	A	C	3I	R8651	A	C	8B	R8850	A	A	C	6N	R9104	B	B	C	10M	R9366	A	A	C	7I	R9704	B	B	C	4B	TP8605	A	A	C	9A
R8246	A	C	2I	R8652	A	C	8B	R8851	A	A	C	5N	R9106	B	B	C	8L	R9367	A	A	C	7I	R9705	B	B	C	3B	TP8606	A	A	C	9A
R8247	A	C	2I	R8653	A	C	8B	R8852	A	A	C	6N	R9107	B	B	C	10M	R9368	A	A	C	9E	R9706	B	B	C	4B	TP8607	A	A	C	7A
R8248	A	C	2I	R8654	A	C	8B	R8853	A	A	C	6N	R9108	B	B	C	10M	R9369	A	A	C	10E	R9707	B	B	C	3B	TP8608	A	A	C	10M
R8249	A	C	2F	R8655	A	C	8B	R8854	A	A	C	6N	R9109	B	B	C	10M	R9370	A	A	C	10E	R9708	B	B	C	4B	TP8609	A	A	C	10L
R8250	A	C	2F	R8656	A	C	7B	R8855	A	A	C	6M	R9110	B	B	C	9O	R9371	A	A	C	10E	R9709	B	B	C	3B	TP8610	A	A	C	10L
R8251	A	C	3G	R8657	A	C	9A	R8856	A	A	C	6M	R9111	B	B	C	9O	R9372	A	A	C	10E	R9710	B	B	C	4B	TP8611	A	A	C	10L
R8252	A	C	3K	R8658	A	C	8B	R8857	A	A	C	6N	R9112	B	B	C	9O	R9373	A	A	C	10E	R9711	B	B	C	3B	TP8612	A	A	C	6B
R8253	A	C	3K	R8659	A	C	9B	R8858	A	A	C	5N	R9113	B	B	C	10M	R9374	A	A	C	3D	R9712	B	B	C	4B	TP8613	A	A	C	7B
R8254	A	C	3K	R8660	A	C	9B	R9001	A	A	C	9L	R9114	B	B	C	10M	R9375	A	A	C	2D	R9713	B	B	C	3B	TP8614	A	A	C	6B
R8255	A	C	3K	R8661	A	C	9B	R9002	A	A	C	8L	R9115	B	B	C	10M	R9376	A	A	C	2D	R9714	B	B	C	4B	TP8615	A	A	C	7B
R8256	A	C	3K	R8662	A	C	9B	R9003	A	A	C	9L	R9116	B	B	C	10M	R9377	A	A	C	5B	R9715	B	B	C	3B	TP9001	A	A	C	10L
R8257	A	C	3K	R8663	A	C	9B	R9004	A	A	C	8L	R9117	B	B	C	8M	R9378	A	A	C	5B	R9716	B	B	C	4B	TP9002	A	A	C	9L
R8258	A	C	4M	R8664	A	C	9B	R9005	A	A	C	8L	R9118	B	B	C	9N	R9379	A	A	C	5B	R9717	B	B	C	3B	TP9003	A	A	C	9L
R8259	A	C	4L	R8665	A	C	9B	R9006	A	A	C	8L	R9119	B	B	C	10L	R9380	A	A	C	4N	R9718	B	B	C	4B	TP9302	A	A	C	6J
R8260	A	C	3G	R8666	A	C	9B	R9007	A	A	C	9O	R9120	B	B	C	10L	R9381	A	A	C	4N	R9719	B	B	C	3A	TP9303	A	A	C	5F
R8261	A	C	3F	R8667	A	C	9B	R9008	A	A	C	9O	R9121	B	B	C	10L	R9382	A	A	C	4N	R9720	B	B	C	4B	OTHER				
R8401	A	C	9G	R8668	A	C	9B	R9009	A	A	C	8L	R9122	B	B	C	8M	R9383	A	A	C	2H	R9721	B	B	C	4B	FL8101	A	A	C	3F
R8402	A	C	9G	R8669	A	C	8B	R9010	A	A	C	8L	R9123	B	B	C	8M	R9384	A	A	C	2H	R9722	B	B	C	3B	K8001	A	A	C	6K
R8403	A	C	9G	R8670	A	C	7B	R9011	A	A	C	8M	R9124	B	B	C	8M	R9385	A	A	C	5I	R9723	B	B	C	4B	K8002	A	A	C	4N
R8404	A	C	8G	R8671	A	C	7B	R9012	A	A	C	8M	R9125	B	B	C	8M	R9386	A	A	C	5I	R9724	B	B	C	3B	K8101	A	A	C	2H
R8405	A	C	9G	R8672	A	C	9A	R9013	A	A	C	8L	R9126	B	B	C	8M	R9387	A	A	C	5I	R9725	B	B	C	3B	K8401	A	A	C	10G
R8406	A	C	8G	R8673	A	C	9A	R9014	A	A	C	8L	R9127	B	B	C	8M	R9388	A	A	C	5N	R9726	B	B	C	3A	K8402	A	A	C	10J
R8407	A	C	10G	R8674	A	C	10A	R9015	A	A	C	8L	R9128	B	B	C	10L	R9389	A	A	C	5N	R9727	B	B	C	3A	K8403	A	A	C	10F
R8408	A	C	9F	R8675	A	C	10B	R9016	A	A	C	8M	R9129	B	B	C	10L	R9390	A	A	C	5N	R9728	B	B	C	3A	K8404	A	A	C	10F
R8409	A	C	8G	R8676	A	C	9B	R9017	A	A	C	8M	R9130	B	B	C	10L	R9391	A	A	C	5N	R9729	B	B	C	3A	K8801	A	A	C	5N
R8410	A	C	9F	R8677	A	C	10B	R9018	A	A	C	8M	R9131	B	B	C	9N	R9392	A	A	C	5D	R9730	B	B	C	3A	K8802	A	A	C	2N
R8411	A	C	10G	R8678	A	C	10B	R9019	A	A	C	7L	R9132	B	B	C	8M	R9393	A	A	C	6D	R9731	B	B	C	3A	K9001	A	A	C	8M
R8412	A	C	10I	R8679	A	C	9B	R9020	A	A	C	7L	R9141	B	B	C	10M	R9394	A	A	C	5D	R9732	B	B	C	3A	K9002	A	A	C	5G
R8413	A	C	8I	R8680	A	C	10B	R9021	A	A	C	8N	R9142	B	B	C	9N	R9395	A	A	C	5C	R9733	B	B	C	3A	K9003	A	A	C	5F
R8414	A	C	8I	R8681	A	C	9B	R9022	A	A	C	8N	R9143	B	B	C	9N	R9396	A	A	C	5C	R9734	B	B	C	3A	K9004	A	A	C	6I
R8415	A	C	8I	R8682	A																											

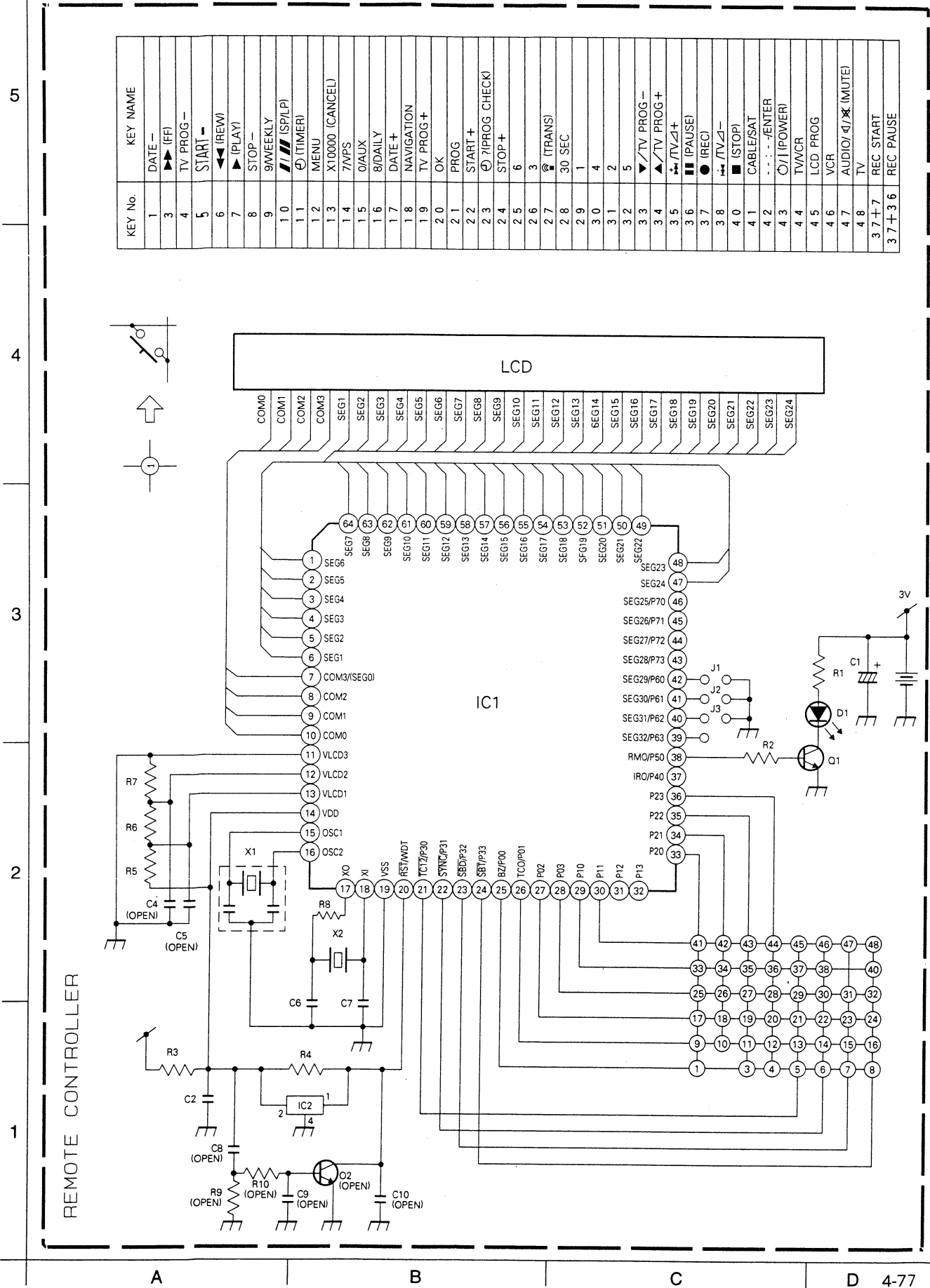
— COMPONENT SIDE (A) —



4.34 REMOTE CONTROL SCHEMATIC DIAGRAM

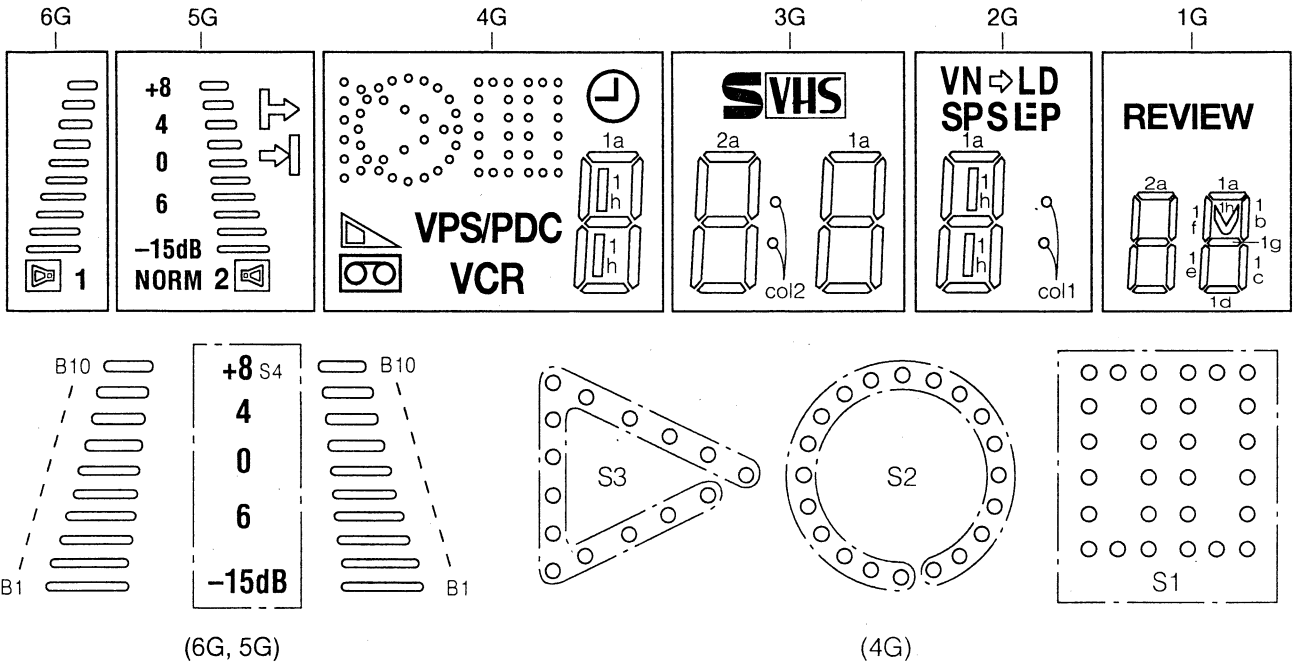
NOTES:

1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.



4.35 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	→	S2	1a	1a	1a
P 2	—	→	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	⌚	1c	1c	1c
P 6	⌚	⌚	⌚	1e	1e	1e
P 7	B10	B10	⌚	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	→	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	⌚ (SEP)	2d
P16	B1	B1	1h	SVHS	LP (SEP)	REVIEW

4.36 VOLTAGE CHARTS

< SW REG >

MODE PIN NO.	REC	PLAY
IC5101		
1	-	-
2	-	-
3	102.4	108.3
4	-	-
5	0	0
IC5301		
1	2.4	2.4
2	0	0
3	10.9	10.9
IC5302		
1	12.6	12.6
2	11.9	11.9
3	0	0
4	3.4	3.4
IC5303		
1	5.7	5.7
2	5.2	5.2
3	0	0
4	1.2	1.2
IC5304		
1	-	-
2	-	-
3	0	0
4	-	-
IC5305		
1	5.7	5.7
2	5.2	5.2
3	0	0
4	2.6	2.6
IC5307		
1	3.5	3.5
2	3.3	3.3
3	0	0
4	2.6	2.6
Q5301		
E	2.8	2.8
C	0	0
B	2.8	2.8
Q5302		
E	-16.7	-16.7
C	-16.7	-16.7
B	-16.0	-16.0
Q5303		
E	0	0
C	0	0
B	4.1	4.1
Q5304		
E	31.8	31.8
C	31.8	31.8
B	31.2	31.2
Q5305		
E	12.5	12.5
C	11.9	11.9
B	11.2	11.2
Q5308		
E	0	0
C	0	0
B	4.1	4.1
Q5310		
E	0	0

MODE PIN NO.	REC	PLAY
C	10.9	10.9
B	0	0
Q5311		
E	3.5	3.5
C	3.5	3.5
B	0.7	0.7
Q5312		
E	-	-
C	-	-
B	-	-
CN5301		
1	-15.2	-15.2
2	-28.0	-28.0
3	-19.0	-19.0
4	0	0
5	5.2	5.2
CN5303		
1	11.9	11.9
2	12.2	12.2
3	11.9	11.9
4	0	0
5	5.1	5.1
CN5304		
1	4.1	4.1
2	0	0
3	5.7	5.7
4	0	0
5	22.1	21.9
6	44.9	44.9
7	5.7	5.7
8	0	0
9	-9.2	-9.2
10	31.5	31.5
11	4.1	4.1
CN5305		
1	2.1	2.1
2	3.1	3.1
3	3.1	3.1
4	0	0
5	0	0
6	3.3	3.3
CN5306		
1	0	0
2	0	0
3	5.2	5.2
CN5307		
1	11.9	11.9
2	0	0
3	5.2	5.2
4	-10.0	-10.0

< VIDEO/N.AUDIO >

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5

MODE PIN NO.	REC	PLAY
3	0	0
4	2.4	2.4
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.4	2.4
11	2.4	2.4
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.2
18	2.3	2.3
19	3.0	3.0
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.1	2.1
25	1.4	1.4
26	2.1	2.1
27	0	0
28	5.0	5.0
29	1.7	1.9
30	2.7	2.7
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.6	2.6
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.4	2.4
53	3.1	2.9
54	2.0	2.0
55	2.1	2.1
56	2.8	2.5
57	0	0
58	3.0	3.0
59	3.4	3.4
60	2.1	2.1
61	5.0	5.0
62	4.6	4.6
63	4.6	4.6

MODE PIN NO.	REC	PLAY
64	0	0
65	0.9	2.6
66	5.0	5.0
67	5.0	5.0
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.0
75	-	-
76	2.3	2.3
77	4.5	4.5
78	2.8	2.8
79	4.3	2.1
80	0	0
81	2.5	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.3	2.3
88	2.3	2.3
89	2.3	2.3
90	5.0	5.0
91	0	0
92	0	0
93	0	0
94	0	0
95	0.4	0.6
96	5.0	5.0
97	0	0
98	4.4	4.4
99	0.5	2.6
100	2.9	2.5
IC2		
1	2.8	2.8
2	0	0
3	2.8	2.8
4	0	0
5	0	0
6	5.0	5.0
7	2.1	2.1
8	0	0
IC3		
1	2.8	2.8
2	0	0
3	2.8	2.8
4	0	0
5	0	0
6	5.0	5.0
7	2.0	2.0
8	0	0
IC4		
1	2.0	2.0
2	5.0	5.0
3	2.6	2.6
4	0	0
Q1		

MODE PIN NO.	REC	PLAY
E	3.4	3.4
C	0	0
B	2.8	2.8
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q14		
E	3.3	3.3
C	5.0	5.0
B	3.9	3.9
Q15		
E	3.9	3.9
C	0	0
B	3.3	3.3
Q16		
E	5.0	5.0
C	5.0	0
B	0	5.0
Q17		
E	0	0
C	0	0
B	2.7	2.7
Q18		
E	0	0
C	0	0
B	2.7	2.7
Q34		
E	2.3	2.3
C	2.3	2.3
B	0	0
Q35		
E	2.3	2.3
C	2.3	2.3
B	0	0
Q36		
E	0	0
C	0	0
B	0.7	0.7
Q37		
E	0	0
C	0	0
B	0.7	0.7
Q47		
D	5.0	5.0
G	2.3	2.1
S	3.5	3.5
Q48		
D	2.4	2.4
G	0	0
S	1.1	1.1
Q49		
E	2.1	2.1
C	5.0	5.0
B	2.8	2.8
Q55		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	2.7	2.7
Q152		
E	5.0	2.7
C	0	0
B	4.3	2.1
Q159		
E	1.7	1.7
C	5.0	5.0
B	2.3	2.3
Q2001		
E	-14.1	0
C	0	0
B	-20.7	0.7
Q2002		
E	-14.1	0
C	0	0
B	-20.7	0.7
Q2003		
E	4.9	4.9
C	-20.5	4.9
B	4.9	0
Q2051		
E	0	0
C	8.6	0.2
B	0.4	0.2
Q2052		
E	11.9	11.9
C	11.7	11.7
B	11.1	11.8
Q2053		
E	0	0
C	0	11.8
B	4.9	0
Q2054		
E	11.7	0
C	11.5	0
B	10.9	0.7
Q2055		
E	0	0
C	0	0
B	4.8	4.8
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.3	2.3
6	2.3	2.3
7	2.3	2.3
8	2.3	2.3
CN101		
1	0	0
2	2.5	-
3	4.7	4.7
4	-	-
5	4.7	4.7
6	0	0
7	0	0
8	0	0
9	0.5	0.5

MODE PIN NO.	REC	PLAY
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0.4	0
21	0	0
22	2.1	2.1
23	0	0
24	2.7	2.7
25	0	0
26	2.7	2.7
27	0	0
28	0	0
29	0	0
30	0.4	0
CN102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.4	2.4
10	4.9	4.9
11	2.3	2.3
12	2.7	2.7
13	0	0
14	0	0
15	2.4	2.4
16	0	0
17	4.6	4.6
18	4.6	4.6
19	5.0	5.0
20	4.9	4.9
21	2.4	2.4
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	2.4	2.4
28	2.3	2.3
29	0	0
30	2.1	2.1
CN606		
1	0	0
2	0	0
3	0	0
4	4.9	4.9
5	4.9	4.9
6	11.9	11.9
7	4.8	4.8
8	-	-

MODE PIN NO.	REC	PLAY
9	5.2	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.3	2.5
7	2.3	2.5
CN2002		
1	0	0
2	0	0

< ON SCREEN >

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	4.9	4.9
4	0	0
5	4.5	-
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	-	-
10	4.7	4.7
11	-	-
12	5.1	5.1
13	2.8	2.8
14	2.8	2.8
15	0	0
16	1.2	1.2
17	0	0
18	5.1	5.1
19	2.4	2.4
20	0	0
21	2.4	2.4
22	0.3	0.3
23	5.1	5.1
24	2.9	2.9
25	2.6	2.6
26	5.1	5.1
27	4.7	-
28	3.6	3.6
29	5.0	5.0
30	5.1	5.1
Q207		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q208		
E	2.4	2.4
C	5.0	5.0
B	3.0	3.0

< FMA >

MODE PIN NO.	REC	PLAY
IC2201		
1	2.3	2.3
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	2.4	2.4
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.4	2.4
17	0.6	0.6
18	2.5	2.5
19	2.5	2.5
20	2.5	0
21	2.5	0
22	2.6	0.7
23	0	0
24	2.6	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	3.2
29	1.4	0.4
30	0	0
31	0	1.8
32	2.5	2.5
33	2.5	2.5
34	0.8	0.8
35	2.5	2.5
36	0	0
37	1.6	1.6
38	0	0
39	0	0
40	4.9	4.9
41	0	0
42	4.6	4.6
43	4.6	4.6
44	3.3	3.3
45	0	0
46	0	0
47	2.5	2.5
48	2.5	2.5
49	3.3	3.3
50	0.7	0.7
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0

MODE PIN NO.	REC	PLAY
4	0	0
5	0	0
6	0	0
7	2.4	2.4
8	0	0
9	0	0

< SYSCON >

MODE PIN NO.	REC	PLAY
IC3001		
1	-	2.5
2	0	0
3	-	2.5
4	2.5	2.5
5	2.5	2.5
6	2.5	2.5
7	2.5	2.5
8	2.5	2.5
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	0	1.3
14	4.7	4.7
15	4.9	4.9
16	0.7	0.7
17	3.3	3.3
18	0	0
19	4.7	0
20	4.4	4.4
21	4.1	4.1
22	4.1	3.2
23	0	0
24	0	0
25	5.0	5.0
26	0	0
27	5.0	5.0
28	4.9	4.9
29	5.2	5.2
30	0	0
31	5.0	5.0
32	0	0
33	0	0
34	-	-
35	0	0
36	4.3	4.3
37	4.8	4.8
38	1.2	1.2
39	4.3	-
40	0	0
41	5.0	5.0
42	4.8	4.8
43	0	0
44	5.0	5.0
45	5.0	5.0
46	5.1	5.1

MODE PIN NO.	REC	PLAY
47	0	0
48	4.9	4.9
49	4.7	4.7
50	4.7	4.7
51	4.9	4.9
52	-	-
53	4.4	-
54	-	-
55	-	-
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	4.9	4.9
71	4.9	4.9
72	-	-
73	4.9	4.9
74	0	0
75	-	-
76	4.6	4.6
77	0	0
78	0	0
79	0.5	0.5
80	0	0
81	0	0
82	5.0	5.0
83	-	-
84	0	0
85	0	0
86	4.6	4.6
87	0	0
88	4.9	0
89	0	0
90	2.6	2.6
91	-	-
92	-	-
93	0	0
94	5.0	5.0
95	5.0	5.0
96	5.1	5.1
97	0	0
98	0.3	0.3
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	4.9	4.9
104	0	0
105	0	0
106	0.2	0.2
107	0	0

MODE PIN NO.	REC	PLAY
108	1.6	1.6
109	5.0	5.0
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	-	-
6	-	-
7	0	0
8	5.0	5.0
IC3004		
1	0	0
2	12.2	12.2
3	-	-
4	-	-
5	0	0
6	12.2	12.2
7	-	-
8	12.2	12.2
9	0	0
IC3005		
1	-	-
2	0	0
3	0	0
4	0	0
5	4.9	4.9
6	-	-
7	1.2	1.2
8	5.0	5.0
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.7	4.7
Q3003		
E	0	0
C	4.9	4.9
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.0	5.0
C	5.7	5.7
B	5.6	5.6
Q3008		
E	0	0
C	4.8	4.8
B	0	0
Q3050		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	4.9	4.9
Q4001		
E	0	0
C	0	0
B	4.5	4.5
CN3001		
1	11.9	11.9
2	0	0
3	1.4	1.4
4	0	0
5	1.6	1.6
CN3002		
1	0	0
2	0	0
CN3003		
1	2.5	2.5
2	5.0	5.0
3	5.0	5.0
4	2.5	2.5
5	11.4	11.4
6	0	0
7	-	-
8	0	0
CN3004		
1	0	0
2	5.0	5.0
3	5.0	5.0
4	-	-
5	0	0
CN3011		
1	0	0
2	0	0
3	0.2	0.2
4	5.0	5.0
5	5.0	5.0
6	5.0	5.0
7	5.0	5.0
8	5.0	5.0
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	0	0
14	0	0
15	5.2	5.2
16	4.2	4.2
17	1.5	1.5
18	4.9	4.9
19	4.5	4.5
20	5.0	5.0
21	5.0	5.0
22	0	0
CN3601		
1	11.9	11.9
2	12.2	12.2
3	11.9	11.9
4	0	0
5	5.1	5.1
CN3602		
1	2.6	2.6

MODE PIN NO.	REC	PLAY
2	-	-
3	-	-
4	0	0
5	4.8	4.8
6	0.4	0.4
7	0	0
8	0	0
9	5.1	5.1
CN3603		
1	0	0
2	0	0
3	0	0
4	0	0
CN3604		
1	4.1	4.1
2	0	0
3	5.7	5.7
4	0	0
5	22.1	21.9
6	44.9	44.9
7	5.7	5.7
8	0	0
9	-9.2	-9.2
10	31.5	31.5
11	4.1	4.1
CN3605		
1	5.2	0
2	1.2	1.2
3	-	-
4	-	-
5	0	0
6	5.0	5.0
7	4.8	4.8

< SYSCON SUB >

MODE PIN NO.	REC	PLAY
IC3301		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	5.0	5.0
11	5.0	5.0
12	5.0	5.0
13	-	-
14	0	0
15	0	0
16	5.0	5.0
17	0	0
18	0	0
19	0	0

MODE PIN NO.	REC	PLAY
20	0	0
21	5.0	5.0
22	-	-
23	-	-
24	0	0
25	0	0
26	-	-
27	5.2	5.2
28	0	0
29	0	0
30	0	0
31	0.5	0.5
32	0	0
33	-	-
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	4.7	4.7
40	0.4	0.4
41	0	0
42	5.0	5.0
43	5.2	5.2
44	0.4	0.4
45	5.0	5.0
46	0.4	0.4
47	5.0	5.0
48	5.0	5.0
49	0	0
50	0	0
51	5.0	5.0
52	0	0
53	4.9	4.9
54	0	0
55	0	0
56	4.9	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	4.9	4.9
63	5.0	5.0
64	0	0
65	0	0
66	4.9	4.9
67	0	0
68	0	0
69	4.9	4.9
70	0	0
71	4.9	4.9
72	0	4.9
73	3.1	3.1
74	3.1	3.1
75	5.0	0
76	0	0
77	0	0
78	5.0	5.0
79	5.0	0
80	5.0	5.0

MODE PIN NO.	REC	PLAY
81	5.0	5.0
82	5.0	5.0
83	5.0	5.0
84	0	0
85	0	0
86	0	0
87	0	5.0
88	0	5.0
89	5.0	5.0
90	0	5.0
91	0	0
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	0	0
100	5.0	5.0
IC3401		
1	0.6	0
2	-	-
3	-	-
4	4.9	4.9
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	-	-
10	0	0
11	0	0
12	4.4	4.4
13	0	0.2
14	4.4	4.4
15	-	-
16	5.0	5.0
IC3402		
1	0.5	0.3
2	5.0	5.0
3	4.2	3.1
4	4.2	3.1
5	0.4	0
6	0	0
7	0	0
8	0	0
9	4.9	4.9
10	0	0
11	0	0
12	5.0	5.0
13	0.4	0.4
14	5.0	5.0
15	5.0	5.0
16	5.0	5.0
IC3403		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	5.0	5.0
6	5.0	5.0

MODE PIN NO.	REC	PLAY
7	0.4	0.4
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	5.0	5.0
24	5.0	5.0
25	5.0	5.0
26	0	0
27	0	0
28	5.0	5.0
CN3606		
1	-	-
2	0	0
3	4.6	4.6
4	5.2	5.2

< TUNER >

MODE PIN NO.	REC	PLAY
IC6080		
1	1.3	1.3
2	1.3	1.3
3	2.8	2.8
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.9	11.9
Q6030		
E	0.8	0.8
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	4.8	4.8
Q6032		
E	0	0
C	0	0
B	4.9	4.9
CN6701		
1	0	0

MODE PIN NO.	REC	PLAY
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-

MODE PIN NO.	REC	PLAY
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1008		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	-	-
C	-	-
B	-	-
Q1006		
E	-	-

MODE PIN NO.	REC	PLAY
C	-	-
B	-	-
Q1007		
E	-	-
C	-	-
B	-	-
Q1012		
E	2.4	2.4
C	4.9	4.9
B	3.0	3.0
Q1014		
E	-	-
C	-	-
B	-	-
Q1015		
E	-	-
C	-	-
B	-	-
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	-	-
C	-	-
B	-	-
Q1022		
E	-	-
C	-	-
B	-	-
Q1025		
E	-	-
C	-	-
B	-	-
Q1026		
E	-	-
C	-	-
B	-	-
CN1001		
1	0	0
2	2.5	-
3	4.7	4.7
4	-	-
5	4.7	4.7
6	0	0
7	0	0
8	0	0
9	0.5	0.5
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0.4	0
21	0	0
22	2.1	2.1

MODE PIN NO.	REC	PLAY
23	0	0
24	2.7	2.7
25	0	0
26	2.7	2.7
27	0	0
28	0	0
29	0	0
30	0.4	0
CN1002		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.4	2.4
10	4.9	4.9
11	2.3	2.3
12	2.7	2.7
13	0	0
14	0	0
15	2.4	2.4
16	0	0
17	4.6	4.6
18	4.6	4.6
19	5.0	5.0
20	4.9	4.9
21	2.4	2.4
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	2.4	2.4
28	2.3	2.3
29	0	0
30	2.1	2.1
CN1006		
1	2.4	2.4
2	0	0
3	2.6	2.6
4	0	0
5	2.8	2.8
6	0	0

< 3D SVHS(3D/TBC) >		
MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

MODE PIN NO.	REC	PLAY
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-

MODE PIN NO.	REC	PLAY
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
IC1402		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-

MODE PIN NO.	REC	PLAY
27	-	-
28	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-

MODE PIN NO.	REC	PLAY
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

< TERMINAL >		
MODE PIN NO.	REC	PLAY
IC3961		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC3962		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC7101		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
IC7102		

MODE PIN NO.	REC	PLAY
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-4.9	-4.9
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.2	5.2
IC7103		
1	6.1	6.1
2	2.9	2.9
3	6.0	6.0
4	0	0
5	-	-
6	-	-
7	-	-
8	-	-
IC7104		
1	-	-
2	-	-
3	-	-
4	-	-
5	5.2	5.2
6	2.3	2.3
7	2.1	2.1
8	2.6	2.6
Q7101		
E	-	-
C	-	-
B	-	-
Q7102		
E	-	-
C	-	-
B	-	-
Q7103		
E	0.6	0.6
C	9.7	9.7
B	1.2	1.2
Q7104		
E	-	-
C	-	-
B	-	-
Q7105		
E	-	-
C	-	-
B	-	-
Q7106		
E	-	-
C	-	-
B	-	-
Q7107		
E	2.7	2.7
C	0	0

< DEMOD >

MODE PIN NO.	REC	PLAY
IC6701		
1	2.5	0
2	2.5	4.8
3	5.0	0
4	0	4.9
5	0	0
6	4.9	4.9
7	0	0
8	4.9	0
9	0	5.0
10	4.9	2.5
11	0	2.5
12	4.9	4.9
13	0	0
14	0	0
15	3.5	3.5
16	2.5	2.5
17	0	0
18	2.2	2.2
19	0	0
20	0	0
21	4.8	4.8
22	0	0
23	2.3	2.3
24	2.3	2.3
25	2.3	2.3
26	4.8	4.8
27	0	0
28	4.9	4.9
29	4.5	4.5
30	4.6	4.6
31	0	0
32	4.8	4.8
33	4.8	4.8
34	0.7	0.7
35	4.8	4.8
36	0	0
37	4.8	4.8
38	2.5	2.5
39	2.5	2.5
40	2.5	2.5
41	2.5	2.5
42	4.8	4.8
43	5.0	5.0
44	0	0
Q6701		
E	1.9	1.9
C	5.0	5.0
B	2.6	2.6
CN6701		
1	0	0
2	4.6	-
3	-	-
4	4.9	4.9
5	0	0
6	0	0
7	5.0	5.0
8	0	0
9	0	0
10	2.4	2.4

< DISPLAY >

MODE PIN NO.	REC	PLAY
IC7001		
1	5.2	5.2
2	2.2	2.2
3	0	0
4	2.2	2.2
5	5.2	5.2
6	0.2	0.2
7	5.2	5.2
8	0	0
9	5.2	5.2
10	5.2	5.2
11	5.2	5.2
12	4.2	4.2
13	1.6	1.6
14	4.9	4.9
15	4.4	4.4
16	-28.0	-28.0
17	-28.0	-28.0
18	4.9	4.9
19	-27.8	-27.8
20	-27.8	-27.8
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	5.2	5.2
IC7002		
1	5.2	5.2
2	5.2	5.2
3	0	0
Q7001		
E	5.2	5.2
C	5.0	5.0
B	0.1	0.1
Q7002		
E	5.2	5.2
C	0	0
B	5.0	5.0
Q7003		
E	5.2	5.2
C	0	0
B	5.0	5.0

MODE PIN NO.	REC	PLAY
CN7001		
1	0	0
2	5.0	5.0
3	5.0	5.0
4	4.5	4.5
5	4.9	4.9
6	1.5	1.5
7	4.2	4.2
8	5.2	5.2
9	0	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	5.0	5.0
16	5.0	5.0
17	5.0	5.0
18	5.0	5.0
19	5.0	5.0
20	0.2	0.2
21	0	0
22	0	0
CN7002		
1	-15.2	-15.2
2	-28.0	-28.0
3	-19.0	-19.0
4	0	0
5	5.2	5.2
CN7003		
1	0	0
2	0	0
3	0	0
4	5.2	5.2
CN7004		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.0	5.0
6	-0.2	-0.2
7	-0.3	-0.3
8	4.2	4.2
9	5.0	5.0
10	5.0	5.0
11	5.0	5.0
12	5.0	5.0
13	5.0	5.0
14	0	0
15	5.2	5.2
16	5.2	5.2
17	5.2	5.2
18	0	0
19	5.2	5.2
20	5.2	5.2
21	5.2	5.2
22	5.2	5.2
FW7001		
1	5.0	5.0
2	0	0
FW7002		

MODE PIN NO.	REC	PLAY
1	0	0
2	0	0
3	0	0

< REC SAFETY >

MODE PIN NO.	REC	PLAY
FW7011		
1	5.0	5.0
2	0	0

< CASS SW >

MODE PIN NO.	REC	PLAY
FW7012		
1	0	0
2	0	0
3	0	0

< JACK >

MODE PIN NO.	REC	PLAY
CN7101		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.2	5.2
6	5.2	5.2
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
CN7103		
1	0	0
2	0	0
3	0	0
4	5.2	5.2

< D-PRE/REC >

MODE PIN NO.	REC	PLAY
IC601		
1	2.6	2.6
2	4.1	4.1
3	4.9	4.9
4	2.9	2.9
5	4.9	4.9
6	4.1	4.1
7	2.6	2.6
8	2.6	2.6
9	1.3	1.3
10	2.8	2.8
11	3.2	3.2
12	2.9	2.9
13	3.2	3.2
14	2.8	2.8
15	1.3	1.3
16	3.0	3.0
17	-	-
18	0	0
19	2.3	2.3
20	4.3	4.3
21	3.5	3.5
22	0	0
23	2.8	2.8
24	4.9	4.9
25	4.4	4.4
26	0	0
27	4.9	4.9
28	4.9	4.9
29	2.8	2.8
30	4.9	4.9
IC602		
1	0	0
2	0	0
3	0	0
4	0	0
5	-	-
6	-	-
7	-	-
8	-	-
Q601		
E	-	-
C	-	-
B	-	-
Q602		
E	-	-
C	-	-
B	-	-
Q603		
E	-	-
C	-	-
B	-	-
Q604		
E	-	-
C	-	-
B	-	-
Q605		
E	-	-
C	-	-
B	-	-
Q606		

MODE PIN NO.	REC	PLAY
E	-	-
C	-	-
B	-	-
Q607		
E	-	-
C	-	-
B	-	-
Q608		
E	-	-
C	-	-
B	-	-
Q609		
E	-	-
C	-	-
B	-	-
Q610		
E	-	-
C	-	-
B	-	-
Q611		
E	-	-
C	-	-
B	-	-
Q612		
E	-	-
C	-	-
B	-	-
Q613		
E	-	-
C	-	-
B	-	-
Q614		
E	-	-
C	-	-
B	-	-
Q615		
E	-	-
C	-	-
B	-	-
Q616		
E	-	-
C	-	-
B	-	-
Q617		
E	-	-
C	-	-
B	-	-
Q618		
E	-	-
C	-	-
B	-	-
Q619		
E	-	-
C	-	-
B	-	-
Q620		
E	-	-
C	-	-
B	-	-
Q621		
E	-	-

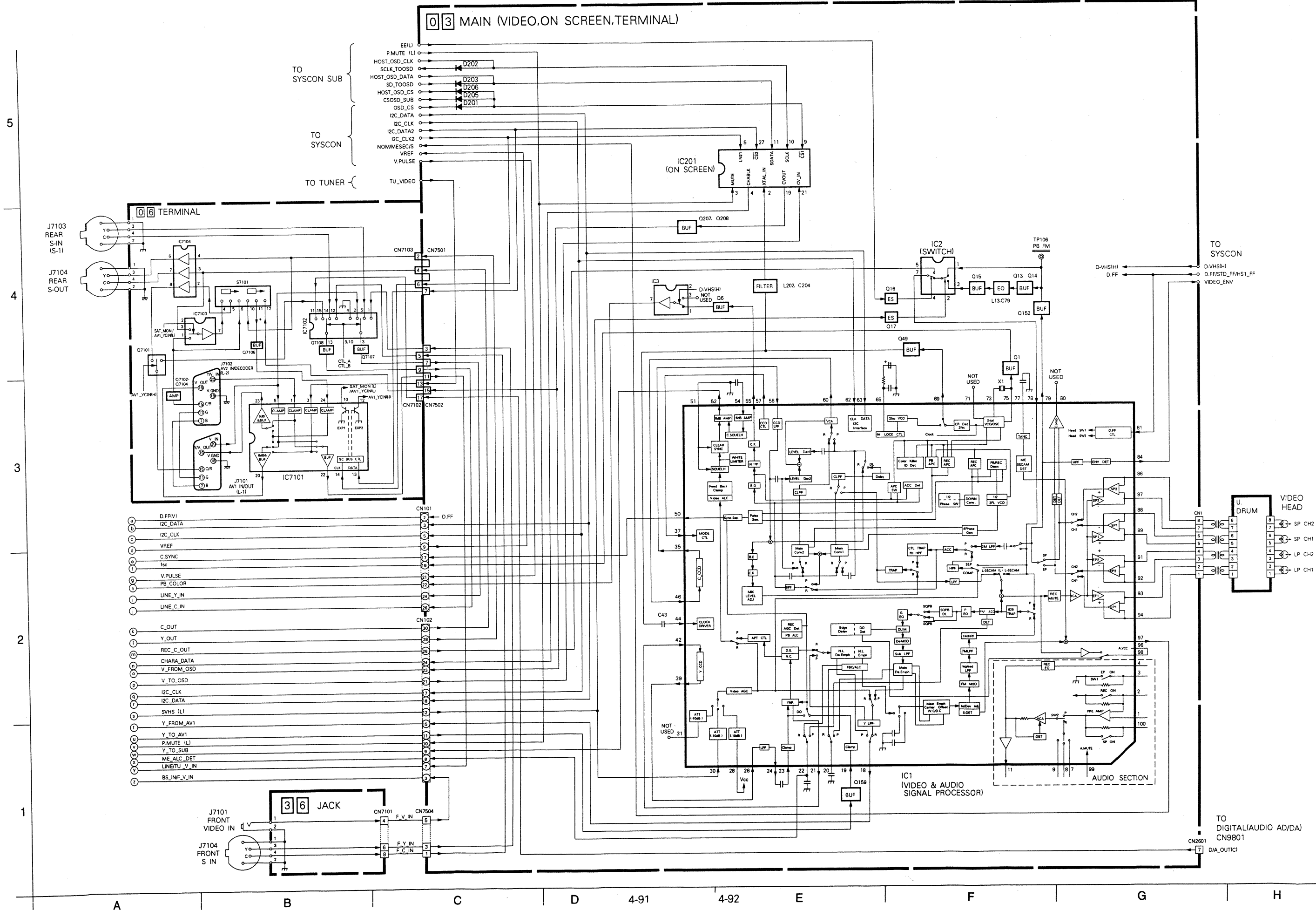
MODE PIN NO.	REC	PLAY
C	-	-
B	-	-
Q622		
E	-	-
C	-	-
B	-	-
Q623		
E	-	-
C	-	-
B	-	-
Q624		
E	-	-
C	-	-
B	-	-
Q625		
E	-	-
C	-	-
B	-	-
CN601		
1	0	0
2	0.8	0.8
CN602		
1	0	0
2	0.8	0.8
CN603		
1	0	0
2	0	0
3	0	0
4	4.9	4.9
5	4.9	4.9
6	11.9	11.9
7	4.8	4.8
8	-	-
9	5.2	0
CN605		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.1	0
6	4.1	0
7	4.1	0

< FMA-PRE/REC >

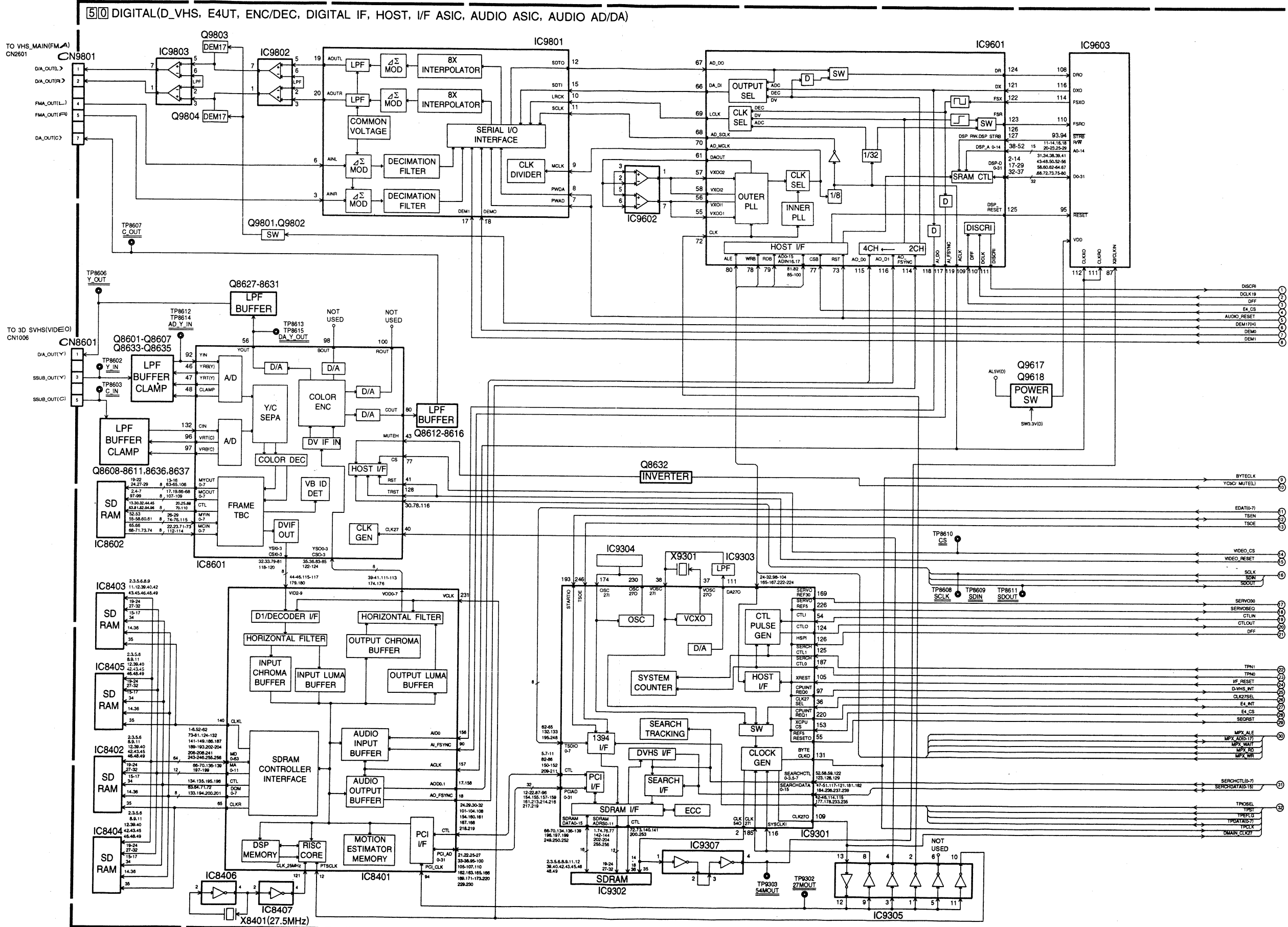
MODE PIN NO.	REC	PLAY
IC2271		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	0.5	0

MODE PIN NO.	REC	PLAY
10	4.9	4.9
11	3.0	3.0
12	0	0
13	1.8	0.9
14	1.8	1.8
15	0.8	0
16	4.8	1.1
Q1701		
E	-	-
C	-	-
B	-	-
Q1702		
E	-	-
C	-	-
B	-	-
Q1703		
E	-	-
C	-	-
B	-	-
Q1704		
E	-	-
C	-	-
B	-	-
Q1705		
E	-	-
C	-	-
B	-	-
Q1706		
E	-	-
C	-	-
B	-	-
Q2271		
E	-	-
C	-	-
B	-	-
Q2272		
E	-	-
C	-	-
B	-	-
Q2273		
E	-	-
C	-	-
B	-	-
Q2277		
E	-	-
C	-	-
B	-	-
Q2278		
E	-	-
C	-	-
B	-	-
Q2279		
E	-	-
C	-	-
B	-	-
Q2280		
E	-	-
C	-	-
B	-	-
Q2281		
E	-	-

MODE PIN NO.	REC	PLAY
C	-	-
B	-	-
Q2282		
E	-	-
C	-	-
B	-	-
Q2283		
E	-	-
C	-	-
B	-	-
CN604		
1	0	-
2	0	0
3	0	0
4	4.9	0
5	4.8	0.4
6	0	0
7	0	0
8	0	0
9	0	0
10	1.4	0.3



4.39 VIDEO BLOCK DIAGRAM(D-VHS)



A

B

C

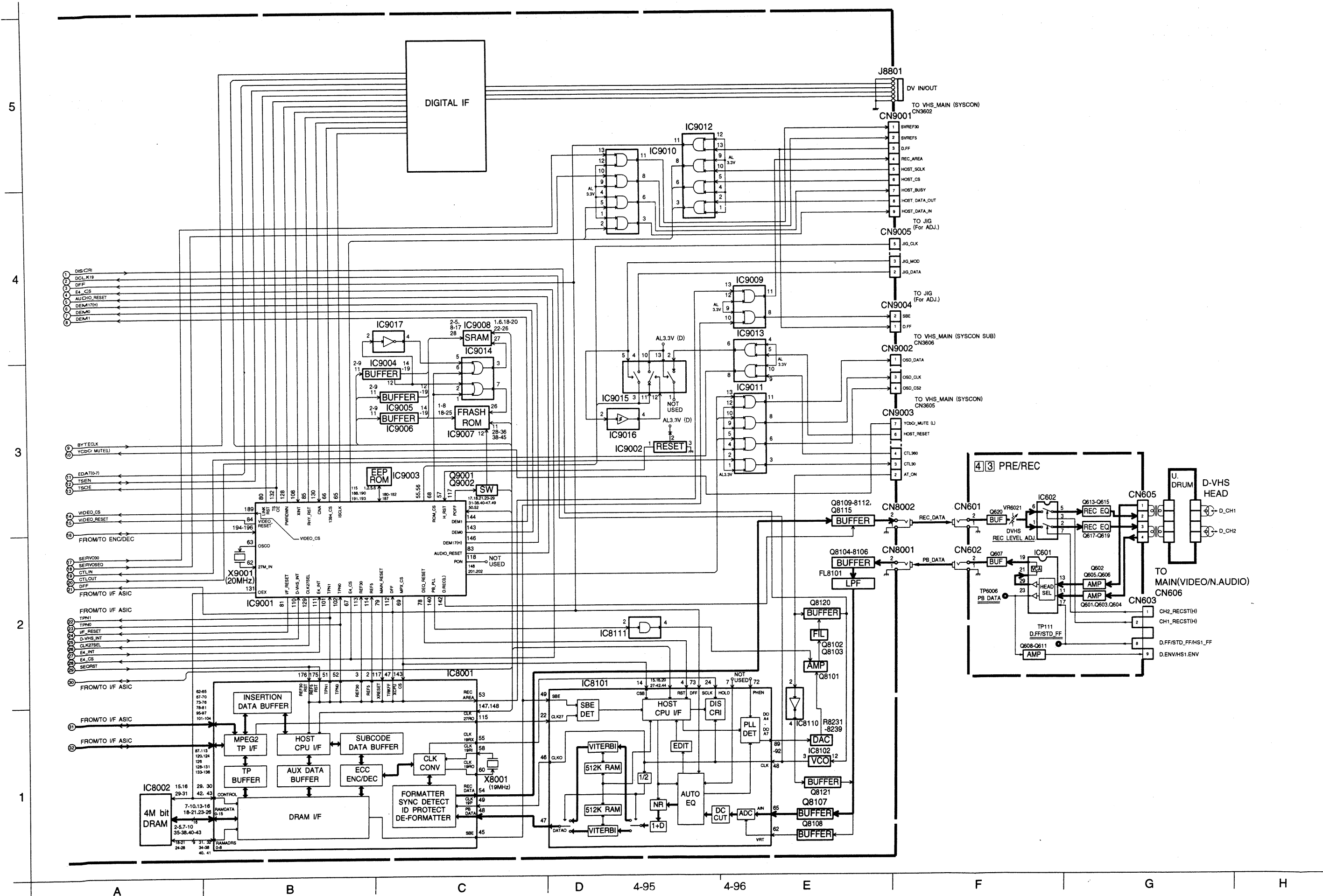
D 4-93

4-94

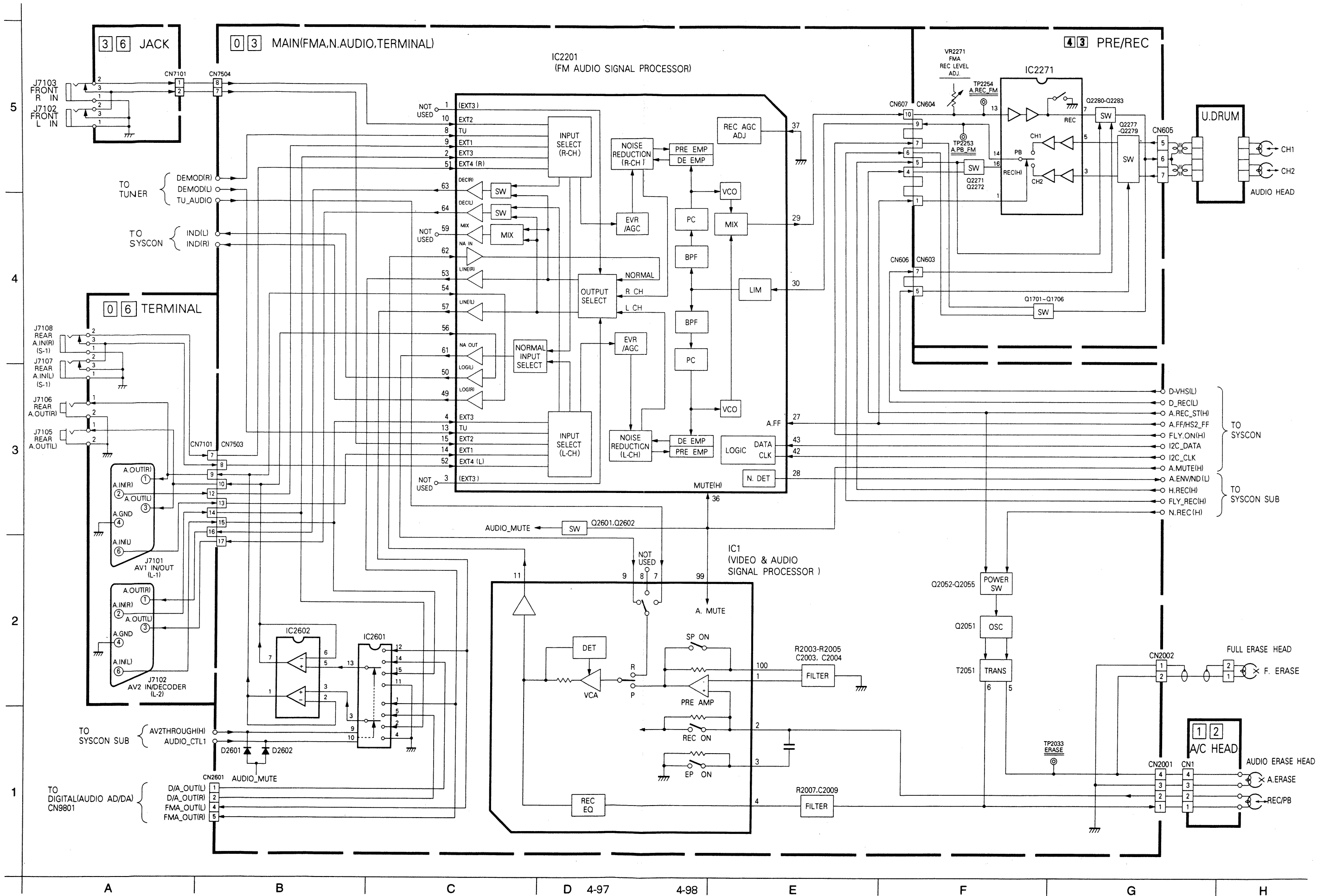
F

E

C



4.40 AUDIO BLOCK DIAGRAM



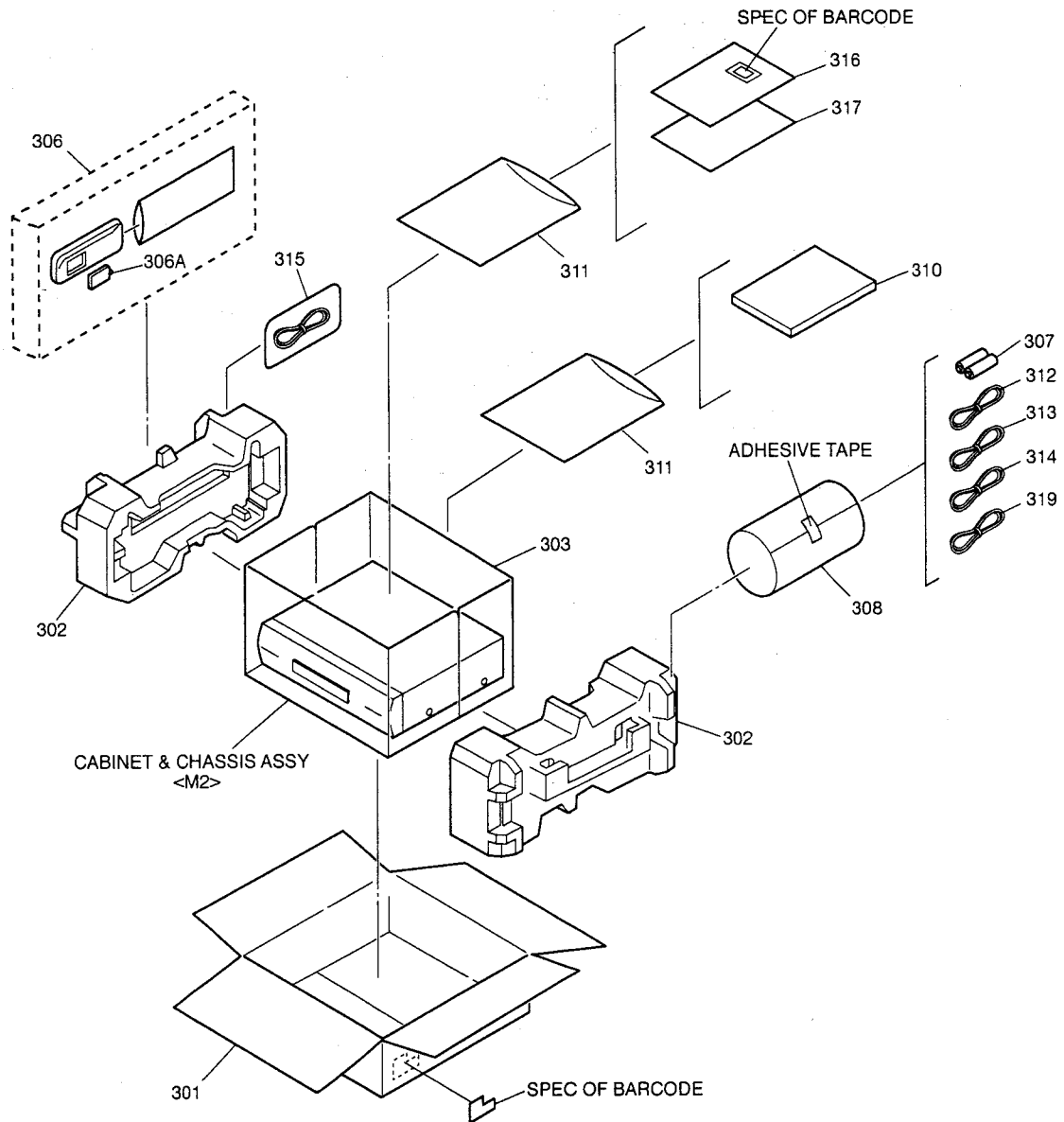
SECTION 5 PARTS LIST

SAFETY PRECAUTION

Parts identified by the Δ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



Δ REF No. PART No. PART NAME, DESCRIPTION

PACKING AND ACCESSORY ASSEMBLY <M1>

	301	LP30636-001C	PACKING CASE
	302	LP30631-001C	CUSHION ASSY
	303	PQM30021-96	POLY BAG
	306	LP20667-004B	REMOTE CONTROLLER
	306A	LP40225-004A	COVER(BATTERY)
	307	-	BATTERY,X2("R6"TYPE)
	308	QPC02202215P	POLY BAG
Δ	310	LPT0300-001A	INST.BOOK(GE)
Δ		LPT0300-002A	INST.BOOK(FR)

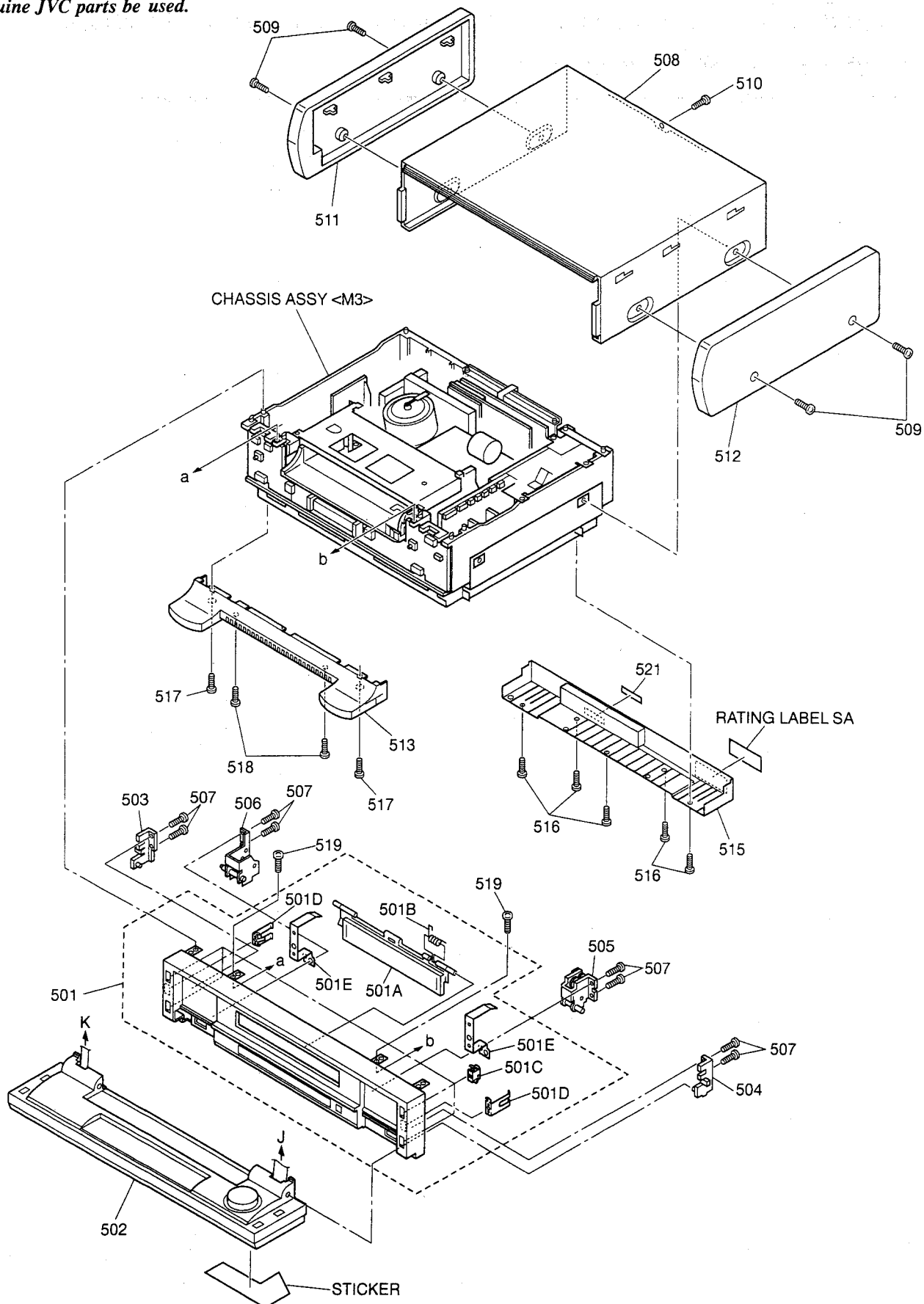
Δ REF No. PART No. PART NAME, DESCRIPTION

Δ		LPT0300-003A	INST.BOOK(DU)
Δ		LPT0300-004A	INST.BOOK(SP)
Δ		LPT0300-005A	INST.BOOK(IT)
Δ		LPT0300-006A	INST BOOK(IT)
Δ		LPT0300-007A	INST BOOK(SW)
	311	QPC02503515P	POLY BAG
	312	PEAC0300-02	RF CABLE
	313	PEAC0358-120	S CABLE
Δ	314	QMP40E0-183	POWER CORD
	315	QAM0020-001	PERI CABLE(21PIN)
	316	BT-54013-1	WARRANTY CARD
	317	PQ45146-194	SHEET(SPAIN)
	319	QAM0171-002	DV CABLE

5.2 CABINET ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



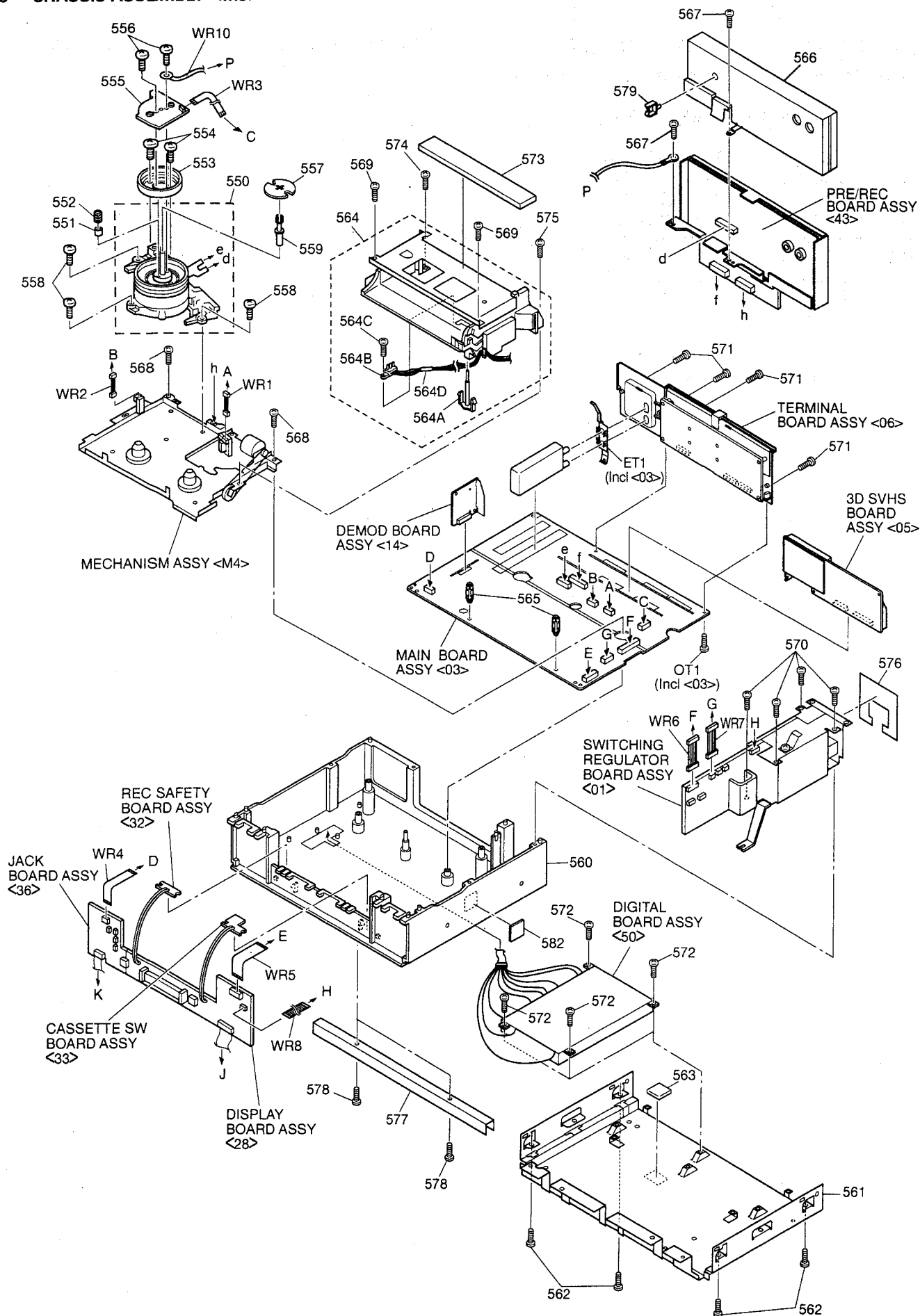
△ REF No. PART No. PART NAME, DESCRIPTION

△ REF No. PART No. PART NAME, DESCRIPTION

CABINET ASSEMBLY <M2>

△ 501	PQ11810H-18	FRONT PANEL ASSY
501A	PQ21826-6-8	CASSETTE DOOR
501B	PQ46510	TORSION SPRING
501C	PEME0879	MAGNET ASSY,X4
501D	PQ34788	EARTH PLATE,X2
501E	PQ46642	EARTH PLATE,X2
502	LP10287-001B	DOOR ASSY
503	PQ46483A	SHAFT ASSY(L)
504	PQ46484A	SHAFT ASSY(R)
505	PEME0922-01-02	DAMPER UNIT ASSY
506	PEME0967-01-01	SHAFT ASSY
507	QYTDSF2606Z	SCREW,X8
△ 508	PQ11781-7	TOP COVER
509	QYDSF3016R	SCREW,X4 TOP COVER(SIDE)
510	QYTDSF3010R	SCREW, TOP COVER(REAR)
511	LP20841-001B	SIDE PANEL ASSY(L)
512	LP20842-001B	SIDE PANEL ASSY(R)
513	PQ21880C	FOOT ASSY
515	LP20839-001B	COVER ASSY,TERMINAL
516	QYTDST3006Z	SCREW,X5 COVER,TERMINAL
517	QYTDSF3010Z	SCREW,X2 FOOT
518	QYTDST3006Z	SCREW,X2 FOOT
519	QYTDSF3010Z	SCREW,X2 FRONT
521	LP30002-084A	SPACER,COVER(TERMINAL)

5.3 CHASSIS ASSEMBLY <M3>



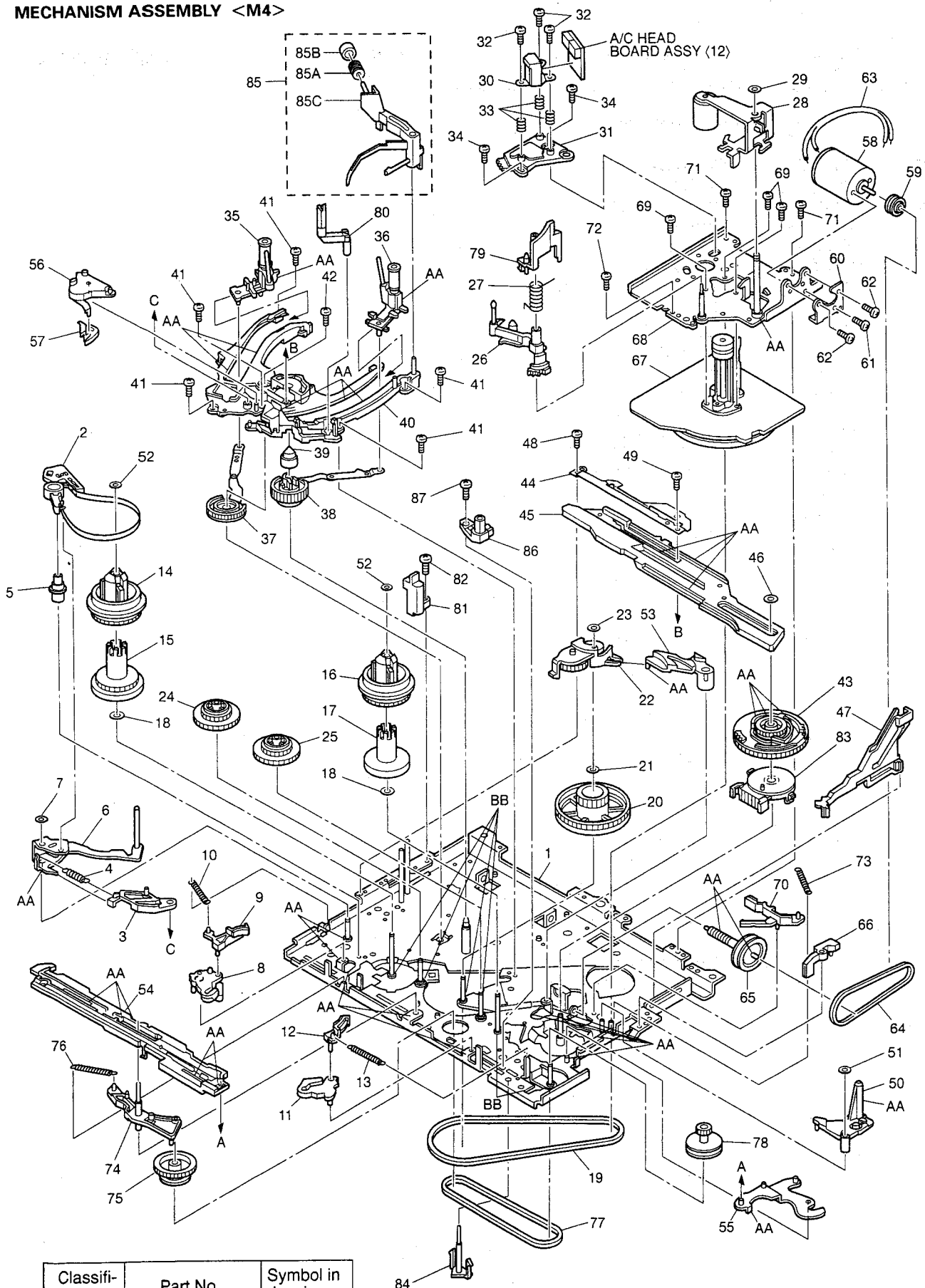
#	△	REF No.	PART No.	PART NAME, DESCRIPTION

CHASSIS ASSEMBLY <M3>

550		PDM2312E	DRUM SUB ASS'Y
551		LP40323-001A	CONTACT
552		LP30004-014A	COMPRESSION SPRING
553		PDZO179-1-4	ROTOR ASSY
554		SPSH2660Z	SCREW,X2
△ 555		PDZO180-1-2	STATOR ASSY
556		QYSPSPL2607Z	SCREW,X2
557		PQ45160	INERTIA PLATE
558		QYTPST2608Z	SCREW,X3 DRUM
559		PDM4311A-1	ROLLER ASSY
△ 560		PQ11780-3	BOTTOM CHASSIS
△ 561		PQ11862-2-4	BOTTOM COVER
562		QYTDSF3010Z	SCREW,X4 BOTTOM COVER
563		LP40614-001A	SPACER,BOTTOM COVER
564		PUS29724H	CASSETTE HOUSING ASSY
564A		PQ46359-1-2	CASSETTE SWITCH PIN
564B		PESW0687	CASSETTE SWITCH
564C		SDSF2008Z	SCREW
564D		PU43192-4	BINDER
565		PEME0947-01-01	SPACER,X2
566		PQ21806-3	SHIELD CASE,PRE/REC
567		QYTDST2606Z	SCREW,X2 PRE/REC
568		QYTDSF4012Z	SCREW,X2 MECHA
569		QYTDSF3010Z	SCREW,X2 HOUSING
570		QYTDSF3010Z	SCREW,X4 SW/REG
571		QYTDSF3010R	SCREW,X4 TERMINAL
572		QYTDST3006Z	SCREW,X4 DIGITAL
573		PQM30029-261	SPACER,CASS.HOUSING
574		SPST2606Z	SCREW,CASSETTE HOUSING
575		SDST2610Z	SCREW,CASSETTE HOUSING
576		PQ34613-12	SHEET(BRACKET)
577		PQ35544	STAY(B.CHASSIS)
578		QYTDSF3010Z	SCREW,X2 STAY
579		PU59311	WIRE CLAMP,PRE/REC
582		LP30002-086A	SPACER,BOTTOM CHASSIS
WR1		QUM037-13BFBF	PARA RIBON WIRE,A/C HEAD CN2001
WR2		QUP012-32AH4H	PARA RIB S WIRE,FE HEAD CN2002
WR3		QUQ212-0524CG	FFC WIRE,DRUM CN3011
WR4		QUQ112-0814CG	FFC WIRE,SW/JACK CN7504
WR5		QUQ112-2222CG	FFC WIRE,DISPLAY CN3011
WR6		QJJ016-112001	SIN CR C-C WIRE,REG CN3604
WR7		QJJ012-051701	SIN CR C-C WIRE,REG CN3601
WR8		QJA002-052202	SIN ID C-C WIRE,DISPLAY CN5301
WR10		QUB220-12RLRL	GND WIRE,PRE/REC

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
---	---	---------	----------	------------------------

5.4 MECHANISM ASSEMBLY <M4>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

△ REF No. PART No. PART NAME, DESCRIPTION

MECHANISM ASSEMBLY <M4>

1	PQ21680M-24	MAIN DECK ASSY
2	LP40006-001C	TENSION BAND ASSY
3	PQ35012-1-5	TENSION ARM LEVER
4	PQM30001-385109	TENSION SPRING
5	LP30103-001B	ADJUST PIN
6	PQ46303B-8	TENSION ARM ASSY
7	PQM30017-47	SLIT WASHER
8	PQ46305B-3	MAIN BRAKE ASSY (SUPPLY)
9	PQ46306A-6	SUB BRAKE ASSY(SUPPLY)
10	PQM30001-393	TENSION SPRING
11	PQ46308A-5	MAIN BRAKE ASSY (TAKE UP)
12	PQ46309B	SUB BRAKE ASSY(TAKE UP)
13	PQM30001-389102	TENSION SPRING
14	PQ46551B	REEL DISK ASSY(SUPPLY)
15	PQ35436	SLIT DISK(SUPPLY)
16	PQ46551B	REEL DISK ASSY(TAKE UP)
17	PQ35437	SLIT DISK(TAKE UP)
18	PQM30018-76	SPACER,X2
19	PQM30003-38	BELT,CAPSTAN MOTOR
20	PQ46497B-2	PULLEY ASSY
21	PQM30018-69	SPACER
22	PQ46312C-15	IDLER ARM ASSY
23	PQM30017-34	SLIT WASHER
24	PQ46316D-7	CLUTCH UNIT(SUPPLY)
25	PQ46323A-1	CLUTCH UNIT(TAKE UP)
26	PQ46325D	GUIDE ARM ASSY
27	PQ46326-2	TORSION SPRING
28	PQ46327A-4	PINCH ROLLER ARM ASSY
29	PQM30017-24	SLIT WASHER,P.LEVER
30	PEHE0182	AC HEAD
31	PQ35206-1-3	HEAD BASE
32	PQ43687A	SPECIAL SCREW,X3
33	PQM30002-192	COMPRESSION SPRING,X3
34	SDSP2604Z	SCREW,X2
35	PQ46595B-5	POLE BASE ASSY(SUPPLY)
36	PQ46331C	POLE BASE ASSY(TAKE UP)
37	PQ46332B-3	LOADING ARM ASSY(SUPPLY)
38	PQ46337C	LOADING ARM ASSY(TAKE UP)
39	PQ46767-1-2	GUIDE CAP
40	PQ11657-1-9	GUIDE RAIL
41	SPST2608Z	SCREW,X5 GUIDE RAIL
42	SDST2612Z	SCREW,GUIDE RAIL
43	LP20003-001A	CONTROL CAM
44	PQ35138-3	CONTROL BRACKET
45	LP10004-001C	CONTROL PLATE
46	PQM30017-8	SLIT WASHER
47	PQ21685-2-10	PINCH PLATE
48	SPST2606Z	SCREW,CONTROL CAM
49	SPSF2608M	SCREW,CONTROL BRACKET
50	PQ46342B-10	LEVER ASSY
51	PQM30017-8	SLIT WASHER
52	PQM30017-47	SLIT WASHER,X2
53	PQ35026-1-7	IDLER LEVER
54	PQ11659-2	SLIDE PLATE
55	LP40014-001A	CHANGE LEVER ASSY
56	PQ21686-1-3	TAKE UP LEVER
57	PQ46345-1-2	TAKE UP HEAD
58	QAR0023-001	LOADING MOTOR

# △ REF No.	PART No.	PART NAME, DESCRIPTION
59	PQ43546-1-2	MOTOR PULLEY
60	PQ46568-1-2	MOTOR GUIDE
61	SDSP2604Z	SCREW
62	SPSP3005Z	SCREW,X2
63	PW30101-80AJ632	WIRE,ASSY
64	LP30005-002A	BELT,LOADING MOTOR
65	PQ46395B	WORM GEAR ASSY
66	PQ21699-1-2	WORM BEARING
67	PU61487-2-5	CAPSTAN MOTOR
68	PQ46347E-17	SUB DECK ASSY
69	SPSG2608Z	SCREW,X3 CAPSTAN MOTOR
70	PQ46356C-4	CAPSTAN BRAKE ASSY
71	SPST2606Z	SCREW,X2 SUB DECK
72	SDSP2604Z	SCREW,MOTOR GUIDE
73	LP30003-005A	TENSION SPRING,C.BRAKE
74	PQ46353B	CHANGE ARM ASSY
75	PQ46354	CHANGE GEAR
76	PQM30001-386	TENSION SPRING
77	PQM30003-40	BELT,CHANGE GEAR
78	LP40008-001B	CASSETTE GEAR
79	PQ35030-1-5	LID GUIDE
80	LP20032-001A	LED PRISM
81	PEHE0237	FULL ERASE HEAD
82	SDST2610Z	SCREW,FE HEAD
83	PU61432-1-2	ROTARY ENCODER
84	PQ46473-1-1	S-SW PIN
85	PQ46436A-1	CLEANER ASSY
85A	PQ46418-1-2	CLEANER ROLLER
85B	PQ46419-1-2	CLEANER
85C	PQ35159-1-1	CLEANER ARM
86	PQ46474-1-2	S-SW HOLDER
87	SPST2606Z	SCREW

5.5 ELECTRICAL PARTS LIST

Δ REF No. PART No. PART NAME, DESCRIPTION

SW REG BOARD ASSEMBLY <01>

PW1	LPA10076-01E	SW.REG BOARD ASSY
IC5101	STR-F6552	IC
IC5301	L5431	IC
IC5302	PQ12RF21	IC
IC5303	PQ30RV31	IC
IC5304	PQ5EV3	IC
IC5305	PQ15RW21	IC
IC5307	PQ15RW21	IC
Q5301	UN5111	TRANSISTOR
	or RN2302	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
Q5302	2SD2144S/UV/-T	TRANSISTOR
Q5303	UN5211	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
Q5304	2SA1576A/RS/-X	TRANSISTOR
Q5305	2SB1256	TRANSISTOR
Q5308	UN5211	TRANSISTOR
	or RN1302	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
Q5310	2SD1819A/RS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/RS/-X	TRANSISTOR
Q5311	UN5111	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
	or DTA114EU	TRANSISTOR
Q5312	2SD2375/QP/	TRANSISTOR
D5001	RBV-406	BRIDGE DIODE
D5101	AU01	FR DIODE
	or ERA18-04-T2	FR DIODE
	or PG104RS	FR DIODE
	or 1SR153-400-T2	FR DIODE
	or 10ELS4	FR DIODE
D5102	AU01	FR DIODE
	or ERA18-04-T2	FR DIODE
	or PG104RS	FR DIODE
	or 1SR153-400-T2	FR DIODE
	or 10ELS4	FR DIODE
D5103	AU01Z	FR DIODE
	or ERA18-02-T2	FR DIODE
	or PG104RS	FR DIODE
	or 1SR153-400-T2	FR DIODE
	or 10ELS2	FR DIODE
D5105	AK04	DIODE
D5106	1SS133	DIODE
D5201	AU01Z	FR DIODE
	or 10ELS2	FR DIODE
D5202	FML-12S	FR DIODE
	or FCF06A20	FR DIODE
	or YG901C2	FR DIODE
	or MA644	FR DIODE
D5203	MA7D49	SB DIODE
	or FSQ05A04B	SB DIODE

Δ REF No. PART No. PART NAME, DESCRIPTION

	or YG801C04	SB DIODE	
D5204	MA7D49	SB DIODE	
	or FSQ05A04B	SB DIODE	
	or YG801C04	SB DIODE	
D5206	AU01Z	FR DIODE	
	or ERA18-02-T2	FR DIODE	
	or PG104RS	FR DIODE	
	or 1SR153-400-T2	FR DIODE	
	or 10ELS2	FR DIODE	
D5207	AU01Z	FR DIODE	
	or ERA18-02-T2	FR DIODE	
	or PG104RS	FR DIODE	
	or 1SR153-400-T2	FR DIODE	
	or 10ELS2	FR DIODE	
D5208	10ELS2	FR DIODE	
	or 1SR153-400-T2	FR DIODE	
	or ERA18-02-T2	FR DIODE	
	or PG104RS	FR DIODE	
D5301	MTZJ15A	ZENER DIODE	
	or RD15ES/B1/-T2	ZENER DIODE	
D5302	1SS133	DIODE	
D5303	MTZJ27C	ZENER DIODE	
	or RD27ES/B3/-T2	ZENER DIODE	
D5304	1SS133	DIODE	
D5305	AK04	DIODE	
	or 11EQS04	SB DIODE	
D5307	1SS133	DIODE	
D5308	1SS133	DIODE	
D5309	1SS133	DIODE	
D5310	1SS133	DIODE	
D5311	1SS133	DIODE	
D5312	1SS133	DIODE	
D5315	MTZJ3.3B	ZENER DIODE	
	or RD3.3ES/B2/-T2	ZENER DIODE	
D5316	1SS133	DIODE	
D5317	1SS133	DIODE	
D5318	1SS133	DIODE	
D5319	1SS133	DIODE	
R5101	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
R5102	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R5103	QRE141J-100Y	RESISTOR	10Ω,1/4W
R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
R5106	QRT01DJ-R33X	MF RESISTOR	0.33Ω,1W
R5108	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R5301	NRSA02J-3R9X	MG RESISTOR	3.9Ω,1/10W
R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
△ R5304	QRZ9006-4R7X	FUSI RESISTOR	4.7Ω,1/4W
△ R5305	QRZ9006-4R7X	FUSI RESISTOR	4.7Ω,1/4W
△ R5306	QRZ9005-101X	FUSI RESISTOR	100Ω,1/4W
R5307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R5308	NRSA02J-163X	MG RESISTOR	16kΩ,1/10W
R5309	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R5310	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R5311	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R5312	QRA14CF-1242Y	CMF RESISTOR	12.4kΩ,1/4W
R5313	QRA14CF-3011Y	CMF RESISTOR	3.01kΩ,1/4W
R5314	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R5316	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R5317	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R5318	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION
		R5320	QRE141J-222Y	RESISTOR 2.2kΩ, 1/4W			K5101	QQR0678-001Z	FERRITE BEAD
		R5321	NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	△		PC5101	PC123F2	PH COUPLER
		R5322	NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	△		T5001	QQS0045-001	SW TRANSFORMER
		R5324	NRSA02J-561X	MG RESISTOR 560Ω, 1/10W			ET1	PQ44695-1-1	EARTH PLATE
		R5325	NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W			ET2	PQ35474	EARTH PLATE
		R5326	NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W			SD1	PQ21503-2	SHIELD CASE(REG)
		R5327	NRSA02J-123X	MG RESISTOR 12kΩ, 1/10W			SD2	PQ34638-1-4	SHIELD COVER(REG)
		R5328	NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W			HS1	PEME0889-01-01	HEAT SINK, IC5101
		R5329	NRSA02J-821X	MG RESISTOR 820Ω, 1/10W			HS2	PEME0963	HEAT SINK, D5202-4
		R5331	QRE141J-333Y	RESISTOR 33kΩ, 1/4W			HS3	PQ46006-1-1	HEAT SINK(2), IC5303
		R5332	NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W			BK1	PQ46004	BRACKET(REG)
		R5333	NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W			CL1	PU59311-3	WIRE CLAMP
		R5334	NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W			OT1	PQ46048	PLATE(REG), X2
		R5335	NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W			OT2	QYTDST3006Z	SCREW, X4
		R5339	NRSA02J-153X	MG RESISTOR 15kΩ, 1/10W			OT3	QYTDST3008Z	SCREW, X7
		R5341	NRVA02D-103X	CMF RESISTOR 10kΩ, 1/10W			OT4	QYTDST3010Z	SCREW, IC5101
		R5342	NRVA02D-163X	CMF RESISTOR 16kΩ, 1/10W			OT5	SPSG3008M	SCREW, X2
		R5345	NRSA02J-4R7X	MG RESISTOR 4.7Ω, 1/10W	△		OT6	LP40600-001A	SHEET(SW.REG)
		R5346	NRSA02J-4R7X	MG RESISTOR 4.7Ω, 1/10W			OT7	PU60010-2	SPACER
		R5347	QRL02DJ-391X	OMF RESISTOR 390Ω, 2W			OT8	LP30002-085A	SPACER, BRACKET
		R5348	QRL02DJ-391X	OMF RESISTOR 390Ω, 2W			OT9	PU59915-105	#500SPACER0.01
		R5349	QRL02DJ-391X	OMF RESISTOR 390Ω, 2W			FC5001	QNG0006-001Z	FUSE CLIP, F5001
		R5350	QRL02DJ-391X	OMF RESISTOR 390Ω, 2W			FC5002	QNG0006-001Z	FUSE CLI, F5001
		R5351	NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	△		LF5001	PELN1204-01-01	LINE FILTER
		R5358	NRSA02J-331X	MG RESISTOR 330Ω, 1/10W	△		LF5002	QQR1031-001	LINE FILTER
△		C5001	QFZ9073-683	F CAPACITOR 0.068μF, 250V	△		CN5001	PEMC1067	AC INLET
△		C5002	QFZ9051-333	F CAPACITOR 0.033μF, 250V			CN5301	QGA2001F4-05	CONNECTOR, (1-5)DISPLAY
△		C5005	QCZ9071-222	CAPACITOR 0.0022μF, 250V			CN5303	QGA2001F1-05	CONNECTOR, (1-5)MAIN
		C5006	QEZ0455-157	E CAPACITOR 150μF, 400V			CN5304	QGA2001F1-11	CONNECTOR, (1-11)MAIN
		C5101	QCZ0212-472	CAPACITOR 0.0047μF, 1kV			CN5305	QGA2001F1-06	CONNECTOR, (1-6)DIGITAL
		C5103	QEMU1EM-396	E CAPACITOR 39μF, 25V			CN5306	QGA2001C1-03	CONNECTOR, (1-3)DIGITAL
		C5104	QCZ0136-221Z	CAPACITOR 220pF, 1kV			CN5307	QGA2001F1-04	CONNECTOR, (1-4)DIGITAL
		C5105	QFLA1HJ-471Z	F CAPACITOR 470pF, 50V	△		CP5301	ICP-N15	CIRCUIT PROTECTOR
		C5201	QEMU0JM-227	E CAPACITOR 220μF, 6.3V	△		CP5302	ICP-N38	CIRCUIT PROTECTOR
		C5202	QEMT1CM-278	E CAPACITOR 2700μF, 16V	△		CP5303	ICP-N38	CIRCUIT PROTECTOR
		C5203	QEMT1AM-338	E CAPACITOR 3300μF, 10V	△		CP5304	ICP-N20	CIRCUIT PROTECTOR
		C5204	QETN2AM-475	E CAPACITOR 4.7μF, 100V	△		F5001	QMF51E2-2R0J1	FUSE T2.0A, AC250V
		C5205	QEMU1HM-186	E CAPACITOR 18μF, 50V					
		C5206	QEMU1EM-187	E CAPACITOR 180μF, 25V					
		C5207	QEMT1AM-338	E CAPACITOR 3300μF, 10V					
		C5208	QETN1CM-337	E CAPACITOR 330μF, 16V					
		C5209	QETN1AM-337	E CAPACITOR 330μF, 10V					
		C5210	QETN1EM-107	E CAPACITOR 100μF, 25V					
		C5211	QETN1AM-337	E CAPACITOR 330μF, 10V					
		C5301	QFLA1HJ-103Z	F CAPACITOR 0.01μF, 50V					
		C5302	QFLC1HJ-473Z	F CAPACITOR 0.047μF, 50V					
		C5303	QFLC1HJ-103Z	F CAPACITOR 0.01μF, 50V					
		C5304	NCB21HJ-102X	CAPACITOR 0.001μF, 50V					
		C5305	QETN1CM-107	E CAPACITOR 100μF, 16V					
		C5307	QETN1AM-107	E CAPACITOR 100μF, 10V					
		C5308	QETN1AM-107	E CAPACITOR 100μF, 10V					
		C5309	NCB21HJ-102X	CAPACITOR 0.001μF, 50V					
		C5310	QETN1AM-107	E CAPACITOR 100μF, 10V					
		C5311	QETN1AM-476	E CAPACITOR 47μF, 10V					
		C5313	QETN1AM-107	E CAPACITOR 100μF, 10V					
		C5314	QETN1AM-107	E CAPACITOR 100μF, 10V					
		C5315	QENC1HM-105	NP E CAPACITOR 1μF, 50V					
		L5201	PELN1184	COIL 33μH					
		L5202	PELN0966-330L	COIL 33μH					
		L5203	PELN1184	COIL 33μH					
		L5204	PELN0966-330L	COIL 33μH					
								</	

△ REF No. PART No. PART NAME, DESCRIPTION

IC3005	TC7W53FU	IC(DIGITAL)
IC3301	MN101C12GCA	IC
	or MN101CP12GAFA	IC
IC3401	BU4053BCF	IC
IC3402	BU4053BCF	IC
IC3403	AT45D041-RC-X	IC
IC6080	BA15218F-XE	IC
Q1	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q6	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q13	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q14	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q15	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q16	UN511E	TRANSISTOR
	or RN2309	TRANSISTOR
	or DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
Q17	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q18	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q34	2SC4081/S/-X	TRANSISTOR
Q35	2SC4081/S/-X	TRANSISTOR
Q36	2SC4081/S/-X	TRANSISTOR
Q37	2SC4081/S/-X	TRANSISTOR
Q47	2SK433/D/-W	JUNCTION FET
Q48	2SK433/D/-W	JUNCTION FET
Q49	2SC3936/BC/-X	TRANSISTOR
Q55	UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q152	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q159	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q207	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q208	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2001	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2002	2SC4081/QRS/-X	TRANSISTOR

△ REF No. PART No. PART NAME, DESCRIPTION

	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2003	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2051	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2052	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2053	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2054	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q2055	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2151	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2253	DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
	or UN5211	TRANSISTOR
Q2601	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2602	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
Q2603	DTC114TU	TRANSISTOR
	or PDTC114TU	TRANSISTOR
	or UN5215	TRANSISTOR
	or RN1311	TRANSISTOR
Q2604	DTC114TU	TRANSISTOR
	or PDTC114TU	TRANSISTOR
	or UN5215	TRANSISTOR
	or RN1311	TRANSISTOR
Q2607	DTC114TU	TRANSISTOR
	or PDTC114TU	TRANSISTOR
	or UN5215	TRANSISTOR
	or RN1311	TRANSISTOR
Q2608	DTC114TU	TRANSISTOR
	or PDTC114TU	TRANSISTOR
	or UN5215	TRANSISTOR
	or RN1311	TRANSISTOR
Q3001	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q3002	LP40038-001A	TAPE SENSOR
Q3003	LP40038-001A	TAPE SENSOR
Q3004	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
			or 2PC4081/R/-X	TRANSISTOR
Q3005			2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q3008			UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
Q3050			DTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or UN5211	TRANSISTOR
			or PDTC114EU	TRANSISTOR
Q4001			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
Q5301			2SB1256	TRANSISTOR
Q5302			DTC114TU	TRANSISTOR
			or RN1311	TRANSISTOR
			or UN5215	TRANSISTOR
			or PDTC114TU	TRANSISTOR
Q5303			2SD2144S/UV/-T	TRANSISTOR
Q5304			2SD1450/ST/-T	TRANSISTOR
			or 2SD1302/ST/-T	TRANSISTOR
Q5305			DTA114EU	TRANSISTOR
			or PDA114EU	TRANSISTOR
			or UN5111	TRANSISTOR
			or RN2302	TRANSISTOR
Q5307			DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
Q6030			2SB1218A/RS/-X	TRANSISTOR
Q6031			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC144EU	TRANSISTOR
Q6032			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC144EU	TRANSISTOR
D201			1SS355	DIODE
D202			1SS355	DIODE
D203			1SS355	DIODE
D205			1SS355	DIODE
D206			1SS355	DIODE
D2001			1SS133	DIODE
D2201			11ES2	DIODE
D2601			1SS133	DIODE
D2602			1SS133	DIODE
D3001			SIR-381SB3FM	LE DIODE
			or SIR-381SB3FX1M	LE DIODE
D3002			1SS133	DIODE
D3003			RD39ES/B3/-T2	ZENER DIODE
			or MTZJ39C	ZENER DIODE
D3004			11ES2	DIODE
D3005			11ES2	DIODE
D3008			1SS355	DIODE
D4001			1SS355	DIODE
D4002			1SS355	DIODE
D5305			11ES2	DIODE
D5306			MA8110/H/-X	ZENER DIODE
D6002			HZ30-2L-T2	ZENER DIODE

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
			or HZ30-2LTD	Z DIODE (M)
R1			NRSA02J-331X	MG RESISTOR 330Ω, 1/10W
R2			NRSA02J-561X	MG RESISTOR 560Ω, 1/10W
R3			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R4			NRSA02J-822X	MG RESISTOR 8.2kΩ, 1/10W
R5			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R6			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W
R7			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R10			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R11			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R13			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W
R15			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R16			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R24			NRVA02D-622X	CMF RESISTOR 6.2kΩ, 1/10W
R25			NRVA02D-152X	CMF RESISTOR 1.5kΩ, 1/10W
R46			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R47			NRSA02J-562X	MG RESISTOR 5.6kΩ, 1/10W
R48			NRSA02J-221X	MG RESISTOR 220Ω, 1/10W
R49			NRSA02J-221X	MG RESISTOR 220Ω, 1/10W
R50			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R52			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W
R54			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R55			NRSA02J-122X	MG RESISTOR 1.2kΩ, 1/10W
R56			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R57			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R60			NRSA02J-563X	MG RESISTOR 56kΩ, 1/10W
R62			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R63			NDC21HJ-120X	CAPACITOR 12pF, 50V
R64			NDC21HJ-220X	CAPACITOR 22pF, 50V
R68			NRSA02J-471X	MG RESISTOR 470Ω, 1/10W
R69			NRSA02J-471X	MG RESISTOR 470Ω, 1/10W
R71			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R73			NRSA02J-683X	MG RESISTOR 68kΩ, 1/10W
R75			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R94			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W
R95			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R96			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R120			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R121			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R137			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R166			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R168			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R169			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R170			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R171			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W
R181			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R195			NRSA02J-564X	MG RESISTOR 560kΩ, 1/10W
R197			NRSA02J-106X	MG RESISTOR 10MΩ, 1/10W
R201			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R202			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R203			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R204			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R208			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R209			NRSA02J-512X	MG RESISTOR 5.1kΩ, 1/10W
R210			NRSA02J-182X	MG RESISTOR 1.8kΩ, 1/10W
R211			NRSA02J-562X	MG RESISTOR 5.6kΩ, 1/10W
R212			NRSA02J-331X	MG RESISTOR 330Ω, 1/10W
R213			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R216			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R218			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R224			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W

△ REF No.	PART No.	PART NAME, DESCRIPTION	#	△ REF No.	PART No.	PART NAME, DESCRIPTION
R225	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R2604	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2001	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R2605	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2002	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R2606	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2003	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R2607	NRSA02J-104X	MG RESISTOR 100kΩ,1/10W	
R2004	NRSA02J-224X	MG RESISTOR 220kΩ,1/10W	R2608	NRSA02J-104X	MG RESISTOR 100kΩ,1/10W	
R2005	NRSA02J-181X	MG RESISTOR 180Ω,1/10W	R2620	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	
R2006	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R2621	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	
R2007	NRSA02J-183X	MG RESISTOR 18kΩ,1/10W	R2622	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	
R2009	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	R3011	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2013	NRSA02J-332X	MG RESISTOR 3.3kΩ,1/10W	R3012	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2014	NRSA02J-153X	MG RESISTOR 15kΩ,1/10W	R3013	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2018	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3014	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2019	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3015	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2020	NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W	R3016	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2053	NRSA02J-562X	MG RESISTOR 5.6kΩ,1/10W	R3017	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2054	NRSA02J-123X	MG RESISTOR 12kΩ,1/10W	R3018	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	
R2055	NRSA02J-3R3X	MG RESISTOR 3.3Ω,1/10W	R3019	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2056	NRSA02J-820X	MG RESISTOR 82Ω,1/10W	R3020	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2057	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3021	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2058	NRSA02J-183X	MG RESISTOR 18kΩ,1/10W	R3022	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2059	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3024	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2060	NRSA02J-183X	MG RESISTOR 18kΩ,1/10W	R3025	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2151	NRSA02J-222X	MG RESISTOR 2.2kΩ,1/10W	R3026	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2152	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3027	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2201	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3029	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2202	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3030	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2203	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3031	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2204	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3033	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2206	NRSA02J-273X	MG RESISTOR 27kΩ,1/10W	R3034	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2207	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3035	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2208	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3036	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	
R2209	NRSA02J-273X	MG RESISTOR 27kΩ,1/10W	R3037	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2210	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3038	NRSA02J-152X	MG RESISTOR 1.5kΩ,1/10W	
R2211	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3039	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2212	NRSA02J-104X	MG RESISTOR 100kΩ,1/10W	R3040	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2213	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3041	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2214	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3042	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2215	NRSA02J-104X	MG RESISTOR 100kΩ,1/10W	R3044	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2216	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3046	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2217	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3047	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2218	NRSA02J-560X	MG RESISTOR 56Ω,1/10W	R3048	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2219	NRSA02J-681X	MG RESISTOR 680Ω,1/10W	R3049	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	
R2222	NRSA02J-681X	MG RESISTOR 680Ω,1/10W	R3050	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	
R2225	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	R3051	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2226	NRSA02J-332X	MG RESISTOR 3.3kΩ,1/10W	R3052	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2227	NRSA02J-122X	MG RESISTOR 1.2kΩ,1/10W	R3053	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2232	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3054	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2233	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W	R3055	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2234	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3056	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2235	NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W	R3057	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2236	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3058	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2237	NRSA02J-511X	MG RESISTOR 510Ω,1/10W	R3059	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2239	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3060	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2240	NRSA02J-511X	MG RESISTOR 510Ω,1/10W	R3061	NRSA02J-471X	MG RESISTOR 470Ω,1/10W	
R2244	NRSA02J-560X	MG RESISTOR 56Ω,1/10W	R3062	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	
R2251	NRSA02J-333X	MG RESISTOR 33kΩ,1/10W	R3063	NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W	
R2252	NRSA02J-221X	MG RESISTOR 220Ω,1/10W	R3066	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	
R2254	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3069	NRSA02J-101X	MG RESISTOR 100Ω,1/10W	
R2601	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3071	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	
R2602	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W	R3072	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	
R2603	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W	R3073	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
R3074			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	R3242			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W
R3075			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W	R3244			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R3076			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W	R3251			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R3077			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3252			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R3078			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3253			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R3079			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3260			NRSA02J-333X	MG RESISTOR	33kΩ, 1/10W
R3080			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3262			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R3081			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3302			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3083			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3303			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3085			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3313			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W
R3086			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3321			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3087			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3322			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3088			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W	R3323			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3089			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3326			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3090			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3328			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R3091			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3329			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R3092			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3330			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R3093			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3331			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3094			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3332			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R3095			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3333			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3096			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3339			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3097			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3340			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3103			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3342			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3104			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3343			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3105			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3345			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3106			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3346			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3201			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3347			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3202			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3348			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3203			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3349			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3204			NRSA02J-392X	MG RESISTOR	3.9kΩ, 1/10W	R3350			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3205			QRE141J-750Y	RESISTOR	75Ω, 1/4W	R3351			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3206			NRSA02J-822X	MG RESISTOR	8.2kΩ, 1/10W	R3352			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3207			NRSA02J-822X	MG RESISTOR	8.2kΩ, 1/10W	R3353			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3208			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W	R3355			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3209			NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W	R3356			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3210			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W	R3357			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3211			NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W	R3358			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3212			NRSA02J-474X	MG RESISTOR	470kΩ, 1/10W	R3359			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3213			NRSA02J-334X	MG RESISTOR	330kΩ, 1/10W	R3361			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3214			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3362			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W
R3215			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3363			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3216			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3364			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3217			NRSA02J-562X	MG RESISTOR	5.6kΩ, 1/10W	R3365			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3218			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3366			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R3219			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3368			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3220			NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W	R3369			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3222			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3370			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3223			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	R3371			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3224			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	R3372			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3225			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3373			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3229			NRSA02J-105X	MG RESISTOR	1MΩ, 1/10W	R3374			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3230			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W	R3375			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3231			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R3376			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3233			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3377			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3234			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3378			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3235			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	R3379			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3236			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	R3380			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R3237			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3381			NRSA02J-331X	MG RESISTOR	330Ω, 1/10W
R3238			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3382			NRSA02J-331X	MG RESISTOR	330Ω, 1/10W
R3240			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3383			NRSA02J-331X	MG RESISTOR	330Ω, 1/10W
R3241			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R3387			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W

△ REF No.	PART No.	PART NAME, DESCRIPTION		# △ REF No.	PART No.	PART NAME, DESCRIPTION	
R3388	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3389	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R7501	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R3390	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R7502	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R3401	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R7503	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R3402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R7504	NQR0227-004X	FERRITE CORE	
R3404	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C1	QEKJ1CM-106	E CAPACITOR	10μF,16V
R3405	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C2	NCB21EK-104X	CAPACITOR	0.1μF,25V
R3412	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C3	NCB21HK-103X	CAPACITOR	0.01μF,50V
R3414	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C5	NCB21HK-103X	CAPACITOR	0.01μF,50V
R3415	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C6	NCB21EK-104X	CAPACITOR	0.1μF,25V
R3432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C7	QEKJ1CM-107	E CAPACITOR	100μF,16V
R3433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C9	NCB21HK-103X	CAPACITOR	0.01μF,50V
R3435	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C11	NCB21HK-103X	CAPACITOR	0.01μF,50V
R3439	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C12	NCB21EK-473X	CAPACITOR	0.047μF,25V
R3442	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C13	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
R3461	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C14	NCB21EK-333X	CAPACITOR	0.033μF,25V
R3462	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C16	NCB21CK-105X	CAPACITOR	1μF,16V
R3463	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C19	NDC21HJ-470X	CAPACITOR	47pF,50V
R3464	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C20	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
R3465	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W	C21	NCB21HK-563X	CAPACITOR	0.056μF,50V
R3466	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C23	NCB21HK-223X	CAPACITOR	0.022μF,50V
R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W	C24	NCB21CK-474X	CAPACITOR	0.47μF,16V
R4002	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W	C25	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W	C27	NDC21HJ-101X	CAPACITOR	100pF,50V
R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W	C29	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W	C30	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
R4006	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C31	NCB21HK-223X	CAPACITOR	0.022μF,50V
R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C32	NCB21HK-103X	CAPACITOR	0.01μF,50V
R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C33	NCB21HK-103X	CAPACITOR	0.01μF,50V
R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C36	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4011	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W	C37	QEKJ1CM-476	E CAPACITOR	47μF,16V
R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W	C41	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C42	NCB21HK-103X	CAPACITOR	0.01μF,50V
R4014	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W	C43	NCB21HK-103X	CAPACITOR	0.01μF,50V
R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W	C45	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C46	NDC21HJ-101X	CAPACITOR	100pF,50V
R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C47	NCB21EK-104X	CAPACITOR	0.1μF,25V
R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C48	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C49	NDC21HJ-221X	CAPACITOR	220pF,50V
R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C54	QEKJ1CM-106	E CAPACITOR	10μF,16V
R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C55	QEKJ1CM-106	E CAPACITOR	10μF,16V
R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W	C56	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
R5309	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W	C57	NCB21EK-104X	CAPACITOR	0.1μF,25V
R5315	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W	C58	NCB21EK-104X	CAPACITOR	0.1μF,25V
R5319	QRE141J-511Y	RESISTOR	510Ω,1/4W	C59	NCB21EK-473X	CAPACITOR	0.047μF,25V
R5320	NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C60	NCB21HK-103X	CAPACITOR	0.01μF,50V
R5321	NRSA02J-221X	MG RESISTOR	220Ω,1/10W	C62	NCB21EK-104X	CAPACITOR	0.1μF,25V
R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W	C63	NDC21HG-151X	CAPACITOR	150pF,50V
R6020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C64	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
R6021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C65	NCB21EK-104X	CAPACITOR	0.1μF,25V
R6022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C66	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C73	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C74	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W	C75	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6032	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W	C76	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W	C77	NDC21HJ-270X	CAPACITOR	27pF,50V
R6082	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C79	NDC21HJ-120X	CAPACITOR	12pF,50V
R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C85	NCB21HK-103X	CAPACITOR	0.01μF,50V
R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C86	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
R6553	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C87	NCB21HK-103X	CAPACITOR	0.01μF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C88			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2217			QEKJ1HM-105	E CAPACITOR	1μF,50V
C89			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2218			QETN1HM-106	E CAPACITOR	10μF,50V
C90			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2219			QETN1HM-106	E CAPACITOR	10μF,50V
C92			NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W	C2220			QETN1EM-476	E CAPACITOR	47μF,25V
C98			NCB21CK-105X	CAPACITOR	1μF,16V	C2224			NCB21HK-103X	CAPACITOR	0.01μF,50V
C107			NDC21HJ-5R0X	CAPACITOR	5pF,50V	C2225			QEKJ1HM-224	E CAPACITOR	0.22μF,50V
C134			NCB21EK-104X	CAPACITOR	0.1μF,25V	C2230			NCB21CK-473X	CAPACITOR	0.047μF,16V
C136			NCB11EK-104X	CAPACITOR	0.1μF,25V	C2231			NCB21HK-153X	CAPACITOR	0.015μF,50V
C137			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2232			QEKJ1HM-224	E CAPACITOR	0.22μF,50V
C139			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2233			NCB21HK-153X	CAPACITOR	0.015μF,50V
C141			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2234			NCB21CK-473X	CAPACITOR	0.047μF,16V
C143			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2251			NCB21EK-104X	CAPACITOR	0.1μF,25V
C164			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2257			QERF0JM-476	E CAPACITOR	47μF,6.3V
C165			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2258			NCB21EK-104X	CAPACITOR	0.1μF,25V
C201			QEKJ0JM-227	E CAPACITOR	220μF,6.3V	C2259			NCB21EK-104X	CAPACITOR	0.1μF,25V
C204			NCB21HK-103X	CAPACITOR	0.01μF,50V	C2260			NDC21HJ-181X	CAPACITOR	180pF,50V
C206			NDC21HJ-330X	CAPACITOR	33pF,50V	C2261			NCB21HK-103X	CAPACITOR	0.01μF,50V
C207			NDC21HJ-330X	CAPACITOR	33pF,50V	C2601			QEKJ1CM-106	E CAPACITOR	10μF,16V
C209			NCB21CK-474X	CAPACITOR	0.47μF,16V	C2602			QETN1HM-106	E CAPACITOR	10μF,50V
C212			NCB21EK-104X	CAPACITOR	0.1μF,25V	C2611			QETN1EM-476	E CAPACITOR	47μF,25V
C213			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C2612			QETN1EM-476	E CAPACITOR	47μF,25V
C214			NCB21CK-224X	CAPACITOR	0.22μF,16V	C3002			NCB21HK-103X	CAPACITOR	0.01μF,50V
C215			NCB21CK-224X	CAPACITOR	0.22μF,16V	C3003			QEKJ1HM-106	E CAPACITOR	10μF,50V
C216			QEKJ0JM-227	E CAPACITOR	220μF,6.3V	C3004			NCB21EK-104X	CAPACITOR	0.1μF,25V
C217			NDC21HJ-560X	CAPACITOR	56pF,50V	C3007			NDC21HJ-101X	CAPACITOR	100pF,50V
C218			NCB21AK-105X	CAPACITOR	1μF,10V	C3008			NDC21HJ-101X	CAPACITOR	100pF,50V
C222			NCB21AK-105X	CAPACITOR	1μF,10V	C3010			QEZ0244-229	EDL CAPACITOR	0.0022F
C2002			QEKJ1CM-476	E CAPACITOR	47μF,16V	C3012			QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C2003			NCB21HK-123X	CAPACITOR	0.012μF,50V	C3013			NCB21HK-103X	CAPACITOR	0.01μF,50V
C2004			QEKJ1CM-226	E CAPACITOR	22μF,16V	C3014			QEKJ1CM-226	E CAPACITOR	22μF,16V
C2005			NCB21HK-102X	CAPACITOR	0.001μF,50V	C3016			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2006			NCB21HK-331X	CAPACITOR	330pF,50V	C3017			NDC21HJ-470X	CAPACITOR	47pF,50V
C2007			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3018			NDC21HJ-470X	CAPACITOR	47pF,50V
C2008			NCB21HK-152X	CAPACITOR	0.0015μF,50V	C3019			NDC21HJ-101X	CAPACITOR	100pF,50V
C2009			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C3020			NDC21HJ-101X	CAPACITOR	100pF,50V
C2010			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C3021			NDC21HJ-101X	CAPACITOR	100pF,50V
C2011			NCB21EK-333X	CAPACITOR	0.033μF,25V	C3022			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2012			NCB21EK-333X	CAPACITOR	0.033μF,25V	C3023			QEKJ1CM-106	E CAPACITOR	10μF,16V
C2013			NCB21EK-333X	CAPACITOR	0.033μF,25V	C3024			NDC21HJ-220X	CAPACITOR	22pF,50V
C2015			QEKJ1CM-226	E CAPACITOR	22μF,16V	C3025			QAT3725-300Z	TRIM CAPACITOR,TIMER CLOCK	
C2016			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C3026			NCB21HK-103X	CAPACITOR	0.01μF,50V
C2051			NCB21HK-331X	CAPACITOR	330pF,50V	C3027			QEKJ1CM-106	E CAPACITOR	10μF,16V
C2052			QFLC1HJ-823Z	F CAPACITOR	0.082μF,50V	C3028			NDC21HJ-101X	CAPACITOR	100pF,50V
C2053			NCB21HK-472X	CAPACITOR	0.0047μF,50V	C3029			NDC21HJ-101X	CAPACITOR	100pF,50V
C2054			NCB21HK-223X	CAPACITOR	0.022μF,50V	C3030			QEKJ1CM-226	E CAPACITOR	22μF,16V
C2055			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3031			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2151			NDC21HJ-101X	CAPACITOR	100pF,50V	C3032			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2152			NCB21HK-103X	CAPACITOR	0.01μF,50V	C3033			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2204			QETJ1HM-226	E CAPACITOR	22μF,50V	C3034			NDC21HJ-470X	CAPACITOR	47pF,50V
C2205			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C3035			NDC21HJ-470X	CAPACITOR	47pF,50V
C2206			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C3036			NDC21HJ-180X	CAPACITOR	18pF,50V
C2207			QEKJ1CM-476	E CAPACITOR	47μF,16V	C3037			NDC21HJ-120X	CAPACITOR	12pF,50V
C2208			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3038			NDC21HJ-101X	CAPACITOR	100pF,50V
C2209			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3039			NDC21HJ-101X	CAPACITOR	100pF,50V
C2210			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3040			NCF21CZ-105X	CAPACITOR	1μF,16V
C2211			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3042			QETN0JM-108	E CAPACITOR	1000μF,6.3V
C2212			QEKJ1CM-476	E CAPACITOR	47μF,16V	C3046			NDC21HJ-101X	CAPACITOR	100pF,50V
C2213			QEKJ0JM-476	E CAPACITOR	47μF,6.3V	C3047			NDC21HJ-101X	CAPACITOR	100pF,50V
C2214			NCB21HK-103X	CAPACITOR	0.01μF,50V	C3048			NDC21HJ-101X	CAPACITOR	100pF,50V
C2215			QEKJ1CM-106	E CAPACITOR	10μF,16V	C3050			NCB21EK-104X	CAPACITOR	0.1μF,25V
C2216			QEKJ1HM-105	E CAPACITOR	1μF,50V	C3051			NCB21EK-104X	CAPACITOR	0.1μF,25V

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
C3070		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3071		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3201		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3312		NDC21HJ-200X	CAPACITOR	20pF,50V
C3313		NDC21HJ-200X	CAPACITOR	20pF,50V
C3314		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3333		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3400		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3401		QEKJ1CM-226	E CAPACITOR	22μF,16V
C3416		NCB21EK-104X	CAPACITOR	0.1μF,25V
C3446		QCB21HK-104	CAPACITOR	0.1μF,50V
C3456		NCB21EK-104X	CAPACITOR	0.1μF,25V
C4001		QEKJ1CM-226	E CAPACITOR	22μF,16V
C4002		NCB21EK-104X	CAPACITOR	0.1μF,25V
C4003		NCB21HK-102X	CAPACITOR	0.001μF,50V
C4004		QEKJ1CM-226	E CAPACITOR	22μF,16V
C4005		NCB21HK-222X	CAPACITOR	0.0022μF,50V
C4006		QEKJ1CM-476	E CAPACITOR	47μF,16V
C4007		NCB21HK-561X	CAPACITOR	560pF,50V
C4008		NCB21AK-105X	CAPACITOR	1μF,10V
C4009		NCB21HK-563X	CAPACITOR	0.056μF,50V
C4010		NCB21EK-223X	CAPACITOR	0.022μF,25V
C4011		NCB21CK-104X	CAPACITOR	0.1μF,16V
C4012		NCB21EK-224X	CAPACITOR	0.22μF,25V
C4013		NCB21HK-563X	CAPACITOR	0.056μF,50V
C4014		NDC21HJ-101X	CAPACITOR	100pF,50V
C4015		NCB21HJ-102X	CAPACITOR	0.001μF,50V
C5306		QETJ1AM-107	E CAPACITOR	100μF,10V
C5307		QEKJ1CM-226	E CAPACITOR	22μF,16V
C5308		QETJ1CM-227	E CAPACITOR	220μF,16V
C5309		QETJ1CM-107	E CAPACITOR	100μF,16V
C6006		NCB21HK-103X	CAPACITOR	0.01μF,50V
C6007		QETJ1AM-337	E CAPACITOR	330μF,10V
C6008		NCB21HK-103X	CAPACITOR	0.01μF,50V
C6014		NCB21HK-103X	CAPACITOR	0.01μF,50V
C6020		NDC21HJ-101X	CAPACITOR	100pF,50V
C6021		NDC21HJ-101X	CAPACITOR	100pF,50V
C6022		NDC21HJ-101X	CAPACITOR	100pF,50V
C6032		NCB21HK-473X	CAPACITOR	0.047μF,50V
C6033		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C6037		QEKJ1HM-106	E CAPACITOR	10μF,50V
L1		QQL29BJ-100Z	COIL	10μH
L3		QQL29BJ-6R8Z	COIL	6.8μH
L4		QQL29BJ-100Z	COIL	10μH
L7		QQL29BJ-100Z	COIL	10μH
L9		QQL29BJ-100Z	COIL	10μH
L12		QQL29BJ-330Z	COIL	33μH
L13		QQL071J-120Y	COIL	12μH
L14		QQL071J-820Y	COIL	82μH
L16		QQL29BJ-100Z	COIL	10μH
L18		QQR0967-001	COIL	12μH
L201		QQL29BK-1R0Z	COIL	1μH
L202		QQL071J-330Y	COIL	33μH
L203		QQL37CJ-220Z	COIL	22μH
L204		QQL29BJ-100Z	COIL	10μH
L206		QQL071J-220Y	COIL	22μH
L2251		QQL29BJ-100Z	COIL	10μH
L2252		QQL29BJ-151Z	COIL	150μH
L3001		QQL29BK-100Z	COIL	10μH
L3002		QQL29BJ-330Z	COIL	33μH
L3003		QQL29BJ-330Z	COIL	33μH

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
L6002		QQL29BJ-100Z	COIL	10μH
L6031		QQL29BK-1R0Z	COIL	1μH
X1		QAX0530-001	CRYSTAL RESONATOR	
X3001		QAX0445-001	CRYSTAL RESONATOR	
X3002		QAX0527-001	CRYSTAL RESONATOR	
X3301		QAX0584-001Z	CRYSTAL RESONATOR	
PC3001		SG-246	IC(PHOTO SENSOR	
PC3002		SG-246	IC(PHOTO SENSOR	
T2051		PELN0832	OSC TRANSFORMER	
TU6001		QAU0107-001	TUNER	
ET1		LP20853-001A	EARTH PLATE(RF)	
SD1		LP30633-001A	SHIELD CASE(PRE/REC)	
OT1		QYTDSF3010Z	SCREW,X2 TERMINAL	
OT2		PU59391	STYLE PIN	
CN1		QGF1028C2-08	FPC CONNECTOR,(1-8)U.DRUM	
CN606		QGB2024K1-09S	CONNECTOR,(1-9)D.PRE/REC	
CN607		QGB2024K1-10S	CONNECTOR,(1-10)D.PRE/REC	
CN2001		QGD2003C1-07	CONNECTOR,(1-7)A/C HEAD	
CN2002		QGD2003C1-02	CONNECTOR,(1-2)FE HEAD	
CN2601		QGA2501C1-09	CONNECTOR,(1-9)FMA_DIGITAL	
CN3001		QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
CN3002		QGD2003C1-02	CONNECTOR,(1-2)LOADING MOTOR	
CN3003		QGB2002L1-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
CN3004		PU61434-1-1	CONNECTOR,(1-5)ROTARY ENCODER	
CN3011		QGF1207C1-22	FPC CONNECTOR,(1-22)FRONT	
CN3601		QGA2001C1-05	CONNECTOR,(1-5)REG(M)	
CN3602		QGA2501C1-09	CONNECTOR,(1-9)DIGITAL	
CN3603		QGA2001C1-04	CONNECTOR,(1-4)D.CASS.SW	
CN3604		QGA2501C1-11	CONNECTOR,(1-11)REG	
CN3605		QGA2501C1-07	CONNECTOR,(1-7)DIGITAL	
CN3606		QGA2501C1-04	CONNECTOR,(1-4)HOST_OSD	
CN7501		QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7502		QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7503		QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7504		QGF1207C1-08	FPC CONNECTOR,(1-8)TERMINAL	
△ CP3003		ICP-N25	CIRCUIT PROTECTOR	
△ CP4001		ICP-N15	CIRCUIT PROTECTOR	

3D SVHS BOARD ASSEMBLY <05>

PW1	LPA10033-13A	3D SVHS BOARD ASSY
IC1001	JCP8008	IC
IC1002	VC2076MP-XE	IC
IC1006	HA118092FP1	IC
IC1007	BA10358F-XE	IC
IC1008	MM1115XF	IC
IC1401	JCP8010-2	IC(DIGITAL)
IC1402	MN47V77S-XE	IC
Q1004	DTC144WU	TRANSISTOR
	or PDC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1005	DTC144WU	TRANSISTOR
	or PDC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
Q1006			2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
Q1007			2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q1012			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1014			2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q1015			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1016			DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
Q1021			2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
Q1022			DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
Q1025			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1026			2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
△ Q1401			2SC1317/RS/-T	TRANSISTOR
Q1402			2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q1403			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1404			2SC4081/S/-X	TRANSISTOR
Q1405			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1406			2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
Q1407			2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
Q1408			2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
Q1409			2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
Q1410			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q1411			2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
Q1412			DTC144WU	TRANSISTOR	
			or PDC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
Q1413			DTC144WU	TRANSISTOR	
			or PDC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
Q1414			DTC144WU	TRANSISTOR	
			or PDC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
Q1416			DTC144WU	TRANSISTOR	
			or PDC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
Q1417			2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
Q1418			2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
D1002			1SS133	DIODE	
			or 1N4148M	DIODE	
D1003			1SS133	DIODE	
			or 1N4148M	DIODE	
D1004			1SS133	DIODE	
			or 1N4148M	DIODE	
D1006			1SS133	DIODE	
			or 1N4148M	DIODE	
D1401			RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
D1402			1SS133	DIODE	
			or 1N4148M	DIODE	
R1002			NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1003			NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1004			NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1008			NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1009			NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
R1010			NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
R1011			NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
R1012			NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
R1013			NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
R1014			NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
R1015			NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
R1016			NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R1017			NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
R1018			NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R1019			NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R1020			NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R1021			NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R1023			NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1025			NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
R1026			NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1027			NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R1028			NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R1029			NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R1030			NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R1031			NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R1032			NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R1035			NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

△ REF No.	PART No.	PART NAME, DESCRIPTION		# △ REF No.	PART No.	PART NAME, DESCRIPTION	
R1037	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	R1435	NRSA02J-242X	MG RESISTOR	2.4kΩ, 1/10W
R1038	NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R1436	NRSA02J-153X	MG RESISTOR	15kΩ, 1/10W
R1039	NRSA02J-394X	MG RESISTOR	390kΩ, 1/10W	R1437	NRSA02J-123X	MG RESISTOR	12kΩ, 1/10W
R1045	NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W	R1438	NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1046	NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W	R1439	NRSA02J-101X	MG RESISTOR	100Ω, 1/10W
R1047	NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R1440	NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1048	NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W	R1442	NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1049	NRSA02J-475X	MG RESISTOR	4.7MΩ, 1/10W	R1443	NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W
R1053	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R1444	NRSA02J-221X	MG RESISTOR	220Ω, 1/10W
R1054	NRSA02J-221X	MG RESISTOR	220Ω, 1/10W	R1445	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1055	NRVA02D-563X	CMF RESISTOR	56kΩ, 1/10W	R1446	NRSA02J-222X	MG RESISTOR	2.2kΩ, 1/10W
R1056	NRVA02D-224X	CMF RESISTOR	220kΩ, 1/10W	R1447	NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W
R1058	NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W	R1448	NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1059	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	R1449	NRSA02J-470X	MG RESISTOR	47Ω, 1/10W
R1060	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	R1451	NRSA02J-681X	MG RESISTOR	680Ω, 1/10W
R1063	NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	R1452	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1064	NRSA02J-332X	MG RESISTOR	3.3kΩ, 1/10W	R1454	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1065	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R1455	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1066	NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W	R1456	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1067	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R1457	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1068	NRSA02J-361X	MG RESISTOR	360Ω, 1/10W	R1458	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1069	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	R1459	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1070	NRSA02J-391X	MG RESISTOR	390Ω, 1/10W	R1460	NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W
R1071	NRSA02J-184X	MG RESISTOR	180kΩ, 1/10W	R1461	NRSA02J-182X	MG RESISTOR	1.8kΩ, 1/10W
R1072	NRSA02J-682X	MG RESISTOR	6.8kΩ, 1/10W	R1462	NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W
R1075	NRSA02J-183X	MG RESISTOR	18kΩ, 1/10W	R1463	NRSA02J-682X	MG RESISTOR	6.8kΩ, 1/10W
R1076	NRSA02J-333X	MG RESISTOR	33kΩ, 1/10W	R1465	NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1077	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	R1467	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1078	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	R1468	NRSA02J-162X	MG RESISTOR	1.6kΩ, 1/10W
R1079	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	R1470	NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1081	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	R1471	NRSA02J-333X	MG RESISTOR	33kΩ, 1/10W
R1401	NRSA02J-331X	MG RESISTOR	330Ω, 1/10W	R1472	NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W
R1402	NRSA02J-101X	MG RESISTOR	100Ω, 1/10W	VR1002	QVZ3521-104Z	V RESISTOR,P.BURST LEVEL	
R1403	NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W	VR1401	QVP0039-103Z	TRIM RESISTOR,DA Y LEVEL	
R1404	NRSA02J-123X	MG RESISTOR	12kΩ, 1/10W	C1001	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
R1405	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	C1002	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
R1406	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	C1003	QEKJ1CM-106	E CAPACITOR	10μF,16V
R1407	NRSA02J-821X	MG RESISTOR	820Ω, 1/10W	C1005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
R1408	NRSA02J-222X	MG RESISTOR	2.2kΩ, 1/10W	C1006	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1409	NRSA02J-681X	MG RESISTOR	680Ω, 1/10W	C1007	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1410	NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W	C1010	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1411	NRSA02J-243X	MG RESISTOR	24kΩ, 1/10W	C1011	NDC21HJ-150X	CAPACITOR	15pF,50V
R1412	NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W	C1013	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1413	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	C1014	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
R1414	NRSA02J-331X	MG RESISTOR	330Ω, 1/10W	C1015	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
R1415	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	C1016	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
R1416	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	C1017	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1417	NRSA02J-821X	MG RESISTOR	820Ω, 1/10W	C1019	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1418	NRSA02J-471X	MG RESISTOR	470Ω, 1/10W	C1020	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1419	NRSA02J-221X	MG RESISTOR	220Ω, 1/10W	C1021	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1420	NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W	C1022	QEKJ1HM-105	E CAPACITOR	1μF,50V
R1422	NRSA02J-391X	MG RESISTOR	390Ω, 1/10W	C1023	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
R1423	NRSA02J-821X	MG RESISTOR	820Ω, 1/10W	C1024	NCB21HK-103X	CAPACITOR	0.01μF,50V
R1425	NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W	C1026	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1428	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1027	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1429	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1028	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
R1430	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1029	NCF21EZ-104X	CAPACITOR	0.1μF,25V
R1431	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1030	QEKJ1HM-105	E CAPACITOR	1μF,50V
R1432	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1031	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
R1433	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W	C1033	QEKJ1HM-105	E CAPACITOR	1μF,50V
R1434	NRSA02J-473X	MG RESISTOR	47kΩ, 1/10W	C1034	QEPF1HM-105	NP E CAPACITOR	1μF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C1035			QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C1421			NDC21HJ-680X	CAPACITOR	68pF,50V
C1036			QEKJ0JM-226	E CAPACITOR	22μF,6.3V	C1422			NDC21HJ-330X	CAPACITOR	33pF,50V
C1037			QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1424			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1038			QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1425			QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1039			QEKJ1CM-476	E CAPACITOR	47μF,16V	C1426			NCB21HK-103X	CAPACITOR	0.01μF,50V
C1040			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1427			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1041			NDC21HG-301X	CAPACITOR	300pF,50V	C1428			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1042			NDC21HG-301X	CAPACITOR	300pF,50V	C1429			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1043			NDC21HG-221X	CAPACITOR	220pF,50V	C1430			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1044			NDC21HG-820X	CAPACITOR	82pF,50V	C1431			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1045			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1432			QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1046			NDC21HG-271X	CAPACITOR	270pF,50V	C1433			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1047			NDC21HJ-101X	CAPACITOR	100pF,50V	C1434			QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1048			NDC21HJ-181X	CAPACITOR	180pF,50V	C1435			QEKJ1HM-105	E CAPACITOR	1μF,50V
C1049			NDC21HG-301X	CAPACITOR	300pF,50V	C1436			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1050			NDC21HG-301X	CAPACITOR	300pF,50V	C1437			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1056			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1438			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1057			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1439			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1058			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1440			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1063			NDC21HJ-101X	CAPACITOR	100pF,50V	C1441			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1064			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1442			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1065			QEKJ0JM-227	E CAPACITOR	220μF,6.3V	C1443			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1066			NCB21EK-223X	CAPACITOR	0.022μF,25V	C1444			QEKJ1HM-105	E CAPACITOR	1μF,50V
C1067			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1445			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1068			QEKJ1HM-105	E CAPACITOR	1μF,50V	C1446			NCB21EK-104X	CAPACITOR	0.1μF,25V
C1069			QEKJ1CM-106	E CAPACITOR	10μF,16V	C1447			NCB21HK-222X	CAPACITOR	0.0022μF,50V
C1070			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1448			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1071			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1449			QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1072			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1450			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1073			NDC21HJ-150X	CAPACITOR	15pF,50V	C1451			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1074			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1454			NDC21HJ-220X	CAPACITOR	22pF,50V
C1082			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1455			NDC21HJ-390X	CAPACITOR	39pF,50V
C1086			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1457			NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1087			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1458			NCB21HK-103X	CAPACITOR	0.01μF,50V
C1088			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1459			NDC21HJ-470X	CAPACITOR	47pF,50V
C1089			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1460			NDC21HJ-470X	CAPACITOR	47pF,50V
C1095			NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1461			NDC21HJ-470X	CAPACITOR	47pF,50V
C1096			QEKJ1CM-106	E CAPACITOR	10μF,16V	C1462			NDC21HJ-470X	CAPACITOR	47pF,50V
C1097			QEPF1HM-105	NP E CAPACITOR	1μF,50V	C1463			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
C1098			QEKJ1HM-105	E CAPACITOR	1μF,50V	C1464			NDC21HJ-330X	CAPACITOR	33pF,50V
C1099			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1465			NDC21HJ-470X	CAPACITOR	47pF,50V
C1401			QEKJ1CM-336	E CAPACITOR	33μF,16V	C1468			NDC21HJ-470X	CAPACITOR	47pF,50V
C1402			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1471			NDC21HJ-470X	CAPACITOR	47pF,50V
C1403			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1472			NDC21HJ-470X	CAPACITOR	47pF,50V
C1404			NCB21HK-103X	CAPACITOR	0.01μF,50V	C1473			NDC21HJ-470X	CAPACITOR	47pF,50V
C1405			NDC21HJ-220X	CAPACITOR	22pF,50V	L1001			QQL29BJ-220Z	COIL	22μH
C1406			NDC21HJ-6R0X	CAPACITOR	6pF,50V	L1004			QQL071J-680Y	COIL	68μH
C1407			NDC21HJ-390X	CAPACITOR	39pF,50V	L1006			QQL29BJ-101Z	COIL	100μH
C1408			NCF21EZ-104X	CAPACITOR	0.1μF,25V	L1008			QQL29BJ-100Z	COIL	10μH
C1409			NCB21HK-103X	CAPACITOR	0.01μF,50V	L1401			QQL071J-330Y	COIL	33μH
C1410			QEKJ0JM-337	E CAPACITOR	330μF,6.3V	L1402			QQL29BJ-100Z	COIL	10μH
C1411			QEKJ1CM-106	E CAPACITOR	10μF,16V	L1404			QQL071J-8R2Y	COIL	8.2μH
C1412			NCF21EZ-104X	CAPACITOR	0.1μF,25V	L1405			QQL071J-150Y	COIL	15μH
C1413			NCF21EZ-104X	CAPACITOR	0.1μF,25V	L1406			QQL071J-6R8Y	COIL	6.8μH
C1414			NCB21HK-103X	CAPACITOR	0.01μF,50V	L1407			QQL29BJ-100Z	COIL	10μH
C1415			NDC21HJ-221X	CAPACITOR	220pF,50V	L1408			QQL29BJ-100Z	COIL	10μH
C1416			NDC21HJ-391X	CAPACITOR	390pF,50V	L1409			QQL071J-330Y	COIL	33μH
C1417			NDC21HJ-680X	CAPACITOR	68pF,50V	L1410			QQL29BJ-4R7Z	COIL	4.7μH
C1418			NDC21HJ-8R0X	CAPACITOR	8pF,50V	L1411			QQL071J-1R0Y	COIL	1μH
C1419			NCF21EZ-104X	CAPACITOR	0.1μF,25V	LC1401			QQR0657-013Z	NOISE FILTER	
C1420			NCF21EZ-104X	CAPACITOR	0.1μF,25V	LC1402			QQR0657-010Z	NOISE FILTER	

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
	SD1	LP30621-001A	SHIELD CASE(S VHS 3D)
	SD2	LP30406-001A	SHIELD PLATE(S VHS)
	BK1	LP40077-001A	BRACKET(BOARD)
	CN1001	QGG2503K2-30	HEADER PIN,(1-30)MAIN
	CN1002	QGG2503K2-30	HEADER PIN,(1-30)MAIN
	CN1006	QGA2001F1-06	CONNECTOR,(1-6)DIGITAL

TERMINAL BOARD ASSEMBLY <06>

PW1	LPA10071-01B	TERMINAL BOARD ASSY	
IC3961	TC7W241FU	IC(DIGITAL)	
IC3962	TC7W241FU	IC(DIGITAL)	
IC7101	BH7635S	IC	
IC7102	TC74HC4052AF-XE	IC(DIGITAL)	
IC7103	MM1111XF	IC	
IC7104	BA7623F	IC	
Q7101	UN5211	TRANSISTOR	
	or DTC114EU	TRANSISTOR	
	or RN1302	TRANSISTOR	
	or PDT114EU	TRANSISTOR	
Q7102	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q7103	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7104	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q7105	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7106	2SB1218A/QRS/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7107	2SB1218A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
Q7108	2SB1218A/QRS/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
D3961	RB721Q-40-T2	SB DIODE	
D3965	RB721Q-40-T2	SB DIODE	
R3961	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3962	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7101	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7102	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7103	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7104	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7105	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7106	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7107	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7108	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
R7109	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R7110	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7111	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
	R7112	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R7113	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R7114	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R7115	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R7116	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R7118	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7119	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7120	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7122	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R7123	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R7124	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7125	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7126	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7127	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7128	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R7129	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R7130	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R7131	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7132	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R7133	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7134	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R7135	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R7136	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7137	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7138	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7139	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7140	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7141	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7142	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R7143	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R7144	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R7145	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R7146	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7147	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R7148	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R7149	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R7150	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R7151	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7152	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R7153	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R7154	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R7155	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R7156	QRE141J-103	RESISTOR	10kΩ,1/4W
	R7157	QRE141J-103Y	RESISTOR	10kΩ,1/4W
	C3961	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C7101	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7103	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7105	NCB21HK-681X	CAPACITOR	680pF,50V
	C7107	NCB21HK-681X	CAPACITOR	680pF,50V
	C7113	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7114	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7115	NCB21HK-681X	CAPACITOR	680pF,50V
	C7116	NCB21HK-681X	CAPACITOR	680pF,50V
	C7117	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C7118	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7119	QEKJ1CM-107	E CAPACITOR	100μF,16V
	C7120	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7121	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7126	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7127	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7128	NCB21HK-681X	CAPACITOR	680pF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C7129			NCB21HK-681X	CAPACITOR	680pF,50V
C7130			QEKJ1CM-107	E CAPACITOR	100pF,16V
C7131			QEKJ1CM-476	E CAPACITOR	47pF,16V
C7132			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7133			QEKJ1CM-107	E CAPACITOR	100pF,16V
C7134			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7135			QETJ0JM-477	E CAPACITOR	470pF,6.3V
C7136			NCB21HK-223X	CAPACITOR	0.022pF,50V
C7137			NDC21HJ-330X	CAPACITOR	33pF,50V
C7138			NCB21HK-223X	CAPACITOR	0.022pF,50V
C7139			NCB21HK-223X	CAPACITOR	0.022pF,50V
C7140			NCB21HK-223X	CAPACITOR	0.022pF,50V
C7142			NDC21HJ-330X	CAPACITOR	33pF,50V
C7144			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7145			QEKJ1CM-107	E CAPACITOR	100pF,16V
C7146			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7147			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7148			QEKJ1CM-107	E CAPACITOR	100pF,16V
C7149			QEKJ1CM-106	E CAPACITOR	10pF,16V
C7150			NCB21HK-103X	CAPACITOR	0.01pF,50V
C7151			QEKJ1CM-106	E CAPACITOR	10pF,16V
C7152			QEKJ1CM-106	E CAPACITOR	10pF,16V
L7101			QQL231J-4R7Y	COIL	4.7pH
L7102			QQL231J-4R7Y	COIL	4.7pH
L7103			QQL231J-4R7Y	COIL	4.7pH
L7104			QQL231J-4R7Y	COIL	4.7pH
L7106			QQL231J-4R7Y	COIL	4.7pH
L7107			QQL231J-4R7Y	COIL	4.7pH
L7109			QQL231J-4R7Y	COIL	4.7pH
L7110			QQL231J-4R7Y	COIL	4.7pH
L7112			QQL231J-4R7Y	COIL	4.7pH
L7113			QQL231J-4R7Y	COIL	4.7pH
L7115			QQL231J-4R7Y	COIL	4.7pH
L7116			QQL231J-4R7Y	COIL	4.7pH
L7118			QQL231J-1R0Y	COIL	1pH
L7120			QQL231J-1R0Y	COIL	1pH
S7101			QSW0693-001	SLIDE SWITCH	
ET1			LP30635-001A	EARTH PLATE	
△ TB1			LP20834-001B	TERMINAL BOARD ASSY	
OT1			QYTD5F3008Z	SCREW,X8	
J3961			QNS0150-001	2.5 JACK,LANC	
J7101			PEMC1177	RGB21PIN SOCKET,AV1 I/O	
J7102			PEMC1177	RGB21PIN SOCKET,AV2/DECODER	
J7103			QND0009-001	S JACK,S IN	
J7104			QND0009-001	S JACK,S OUT	
J7105			QNN0023-003	PIN JACK,A.OUT(L)	
J7106			QNN0023-002	PIN JACK,A.OUT(R)	
J7107			QNN0022-003	PIN JACK,A.IN(L)	
J7108			QNN0022-002	PIN JACK,A.IN(R)	
J7109			PEMC1190	MINI JACK,JLIP	
J7110			PU60659	MINI JACK,R.PAUSE	
CN7101			QGB2024J1-17S	CONNECTOR,(1-17)MAIN	
CN7102			QGB2024J1-17S	CONNECTOR,(1-17)MAIN	
CN7103			QGB2024J1-17S	CONNECTOR,(1-17)MAIN	

△ REF No. PART No. PART NAME, DESCRIPTION

AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	PB40068A-01	A/C HEAD BOARD ASSY
CN1	QGD2001F1-07	CONNECTOR

DEMOD BOARD ASSEMBLY <14>

PW1	LPA10060-02D	DEMOD BOARD ASSY	
IC6701	TDA9874H/V1-X	IC	
Q6701	2SC3936/BC/-X	TRANSISTOR	
D6701	1SV214	DIODE	
R6701	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6705	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6706	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6707	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6708	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6709	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6710	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6711	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R6713	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6715	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6716	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6717	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6719	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6720	QRE141J-100Y	RESISTOR	10Ω,1/4W
R6721	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6722	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R6723	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6724	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R6726	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
C6701	QEKJ1HM-225	E CAPACITOR	2.2pF,50V
C6702	NCB21HK-682X	CAPACITOR	0.0068pF,50V
C6703	QEKJ1HM-225	E CAPACITOR	2.2pF,50V
C6704	NCB21HK-682X	CAPACITOR	0.0068pF,50V
C6705	NCF21CZ-474X	CAPACITOR	0.47pF,16V
C6706	NCF21CZ-474X	CAPACITOR	0.47pF,16V
C6707	NCF21CZ-474X	CAPACITOR	0.47pF,16V
C6710	QEKJ1HM-334	E CAPACITOR	0.33pF,50V
C6711	NCB21EK-333X	CAPACITOR	0.033pF,25V
C6712	NDC21HJ-180X	CAPACITOR	18pF,50V
C6713	NDC21HJ-180X	CAPACITOR	18pF,50V
C6716	NCF21CZ-474X	CAPACITOR	0.47pF,16V
C6718	NCB21EK-224X	CAPACITOR	0.22pF,25V
C6719	NCB21HK-103X	CAPACITOR	0.01pF,50V
C6720	QEKJ1HM-105	E CAPACITOR	1pF,50V
C6722	NCF21CZ-474X	CAPACITOR	0.47pF,16V
C6723	NDC21HJ-101X	CAPACITOR	100pF,50V
C6724	NDC21HJ-101X	CAPACITOR	100pF,50V
C6728	NCB21HK-103X	CAPACITOR	0.01pF,50V
C6729	QEKJ1HM-225	E CAPACITOR	2.2pF,50V
C6730	QEKJ1CM-476	E CAPACITOR	47pF,16V
C6731	NCB21HK-103X	CAPACITOR	0.01pF,50V
C6732	NCB21HK-103X	CAPACITOR	0.01pF,50V

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
	C6733	NCB21HK-222X	CAPACITOR 0.0022μF,50V
	C6740	NDC21HJ-221X	CAPACITOR 220pF,50V
	L6701	QQL231J-3R3Y	COIL 3.3μH
	L6702	QQL231J-1R0Y	COIL 1μH
	L6703	QQL231J-3R3Y	COIL 3.3μH
	X6701	QAX0560-001	CRYSTAL RESONATOR
	K6701	NQR0200-003X	FERRITE BEAD
	K6702	NQR0200-003X	FERRITE BEAD
	K6703	NQR0200-003X	FERRITE BEAD
	K6704	NQR0200-003X	FERRITE BEAD
	K6705	NQR0200-003X	FERRITE BEAD
	K6706	NQR0200-003X	FERRITE BEAD
	K6707	NQR0200-003X	FERRITE BEAD
	BK1	LP40077-001A	BRACKET(BOARD)
	CN6701	QGG2502K1-10	HEADER PIN

DISPLAY BOARD ASSEMBLY <28>

PW1	LPA10079-01D1	DISPLAY BOARD ASSY
IC7001	M35500BFP	IC
	or M35500BGP	IC
	or M35500AGP	IC
IC7002	GP1U281X	IR DETECT UNIT
	or PNA4652M00XB	IR DETECT UNIT
Q7001	DTA114ES	TRANSISTOR
Q7002	DTA114ES	TRANSISTOR
Q7003	DTA114ES	TRANSISTOR
D7002	RD9.1ES/B2/-T2	ZENER DIODE
	or UZ9.1BSB	ZENER DIODE
	or MTZJ9.1B	ZENER DIODE
D7004	1SS133	DIODE
D7005	1SS133	DIODE
D7006	1SS133	DIODE
R7001	QRE141J-471Y	RESISTOR 470Ω, 1/4W
R7002	QRE141J-471Y	RESISTOR 470Ω, 1/4W
R7003	QRE141J-471Y	RESISTOR 470Ω, 1/4W
R7004	QRE141J-471Y	RESISTOR 470Ω, 1/4W
R7005	QRE141J-823Y	RESISTOR 82kΩ, 1/4W
R7007	QRE141J-823Y	RESISTOR 82kΩ, 1/4W
R7013	QRE141J-823Y	RESISTOR 82kΩ, 1/4W
R7014	QRE141J-823Y	RESISTOR 82kΩ, 1/4W
R7015	QRE141J-103Y	RESISTOR 10kΩ, 1/4W
R7026	QRE141J-223Y	RESISTOR 22kΩ, 1/4W
C7001	QCFB1HZ-104	CAPACITOR 0.1μF,50V
C7002	QEKJ1HM-106	E CAPACITOR 10μF,50V
C7007	QEKJ0JM-476	E CAPACITOR 47μF,6.3V
C7009	QCSB1HJ-150	CAPACITOR 15pF,50V
C7010	QCC11EJ-104	CAPACITOR 0.1μF,25V
C7011	QEKJ0JM-227	E CAPACITOR 220μF,6.3V
C7019	QDVB1EZ-223Y	CAPACITOR 0.022μF,25V
C7020	QCC11EK-104	CAPACITOR 0.1μF,25V
C7021	QCC11EK-104	CAPACITOR 0.1μF,25V
DI7001	QLF0032-002	FL TUBE
HD1	LP30428-001A	FDP HOLDER(L),DI7001
HD2	LP30429-001A	FDP HOLDER(R),DI7001
CN7001	QGF1208F1-22	FPC CONNECTOR,(1-22)MAIN
CN7002	QGA2001C1-05	CONNECTOR,(1-5)REG

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
	CN7003	QGB2003M1-04	CONNECTOR,(1-4)JACK
	CN7004	PU60329-122	CONNECTOR,(1-22)OPERATION

REC SAFETY BOARD ASSEMBLY <32>

PW4	LPA10079-01A4	REC SAFETY BOARD ASSY
S7051	PESW0589	PUSH SWITCH
FW7001	QUM062-07A4A4	PARA RIBON WIRE

CASS SW BOARD ASSEMBLY <33>

PW3	LPA10079-01A3	CASSETTE SW BOARD ASSY
S7052	PESW0674	PUSH SWITCH
S7053	PESW0674	PUSH SWITCH
FW7002	QUM063-07A4A4	PARA RIBON WIRE

JACK BOARD ASSEMBLY <36>

PW2	LPA10079-01A2	SW/JACK BOARD ASSY
R7102	QRE141J-0R0Y	RESISTOR 0Ω, 1/4W
R7105	QRE141J-103Y	RESISTOR 10kΩ, 1/4W
R7106	QRE141J-103Y	RESISTOR 10kΩ, 1/4W
C7102	QCB1HJ-681	CAPACITOR 680pF,50V
C7104	QCB1HJ-681	CAPACITOR 680pF,50V
L7101	QRE141J-101Y	RESISTOR 100Ω, 1/4W
L7102	QRE141J-101Y	RESISTOR 100Ω, 1/4W
S7101	PESW0550	SLIDE SWITCH
J7101	PEMC1126-04	PIN JACK,VIDEO IN
J7102	PEMC0922-03	PIN JACK(SW),AUDIO(L)IN
J7103	PEMC0922-02	PIN JACK(SW),AUDIO(R)IN
J7104	QND0010-001	S JACK,S IN
CN7101	QGF1208F1-08	FPC CONNECTOR,(1-8)MAIN
CN7102	PU60329-112	FFC CONNECTOR,(1-12)OPERATION
CN7103	QGB2003L1-04	CONNECTOR,(1-4)

PRE/REC BOARD ASSEMBLY <43>

PW1	LPA10072-01A	PRE/REC BOARD ASSY
IC601	JCP0024	IC
IC602	TC7W66F	IC(DIGITAL)
IC2271	AN3328S	IC
Q601	2SA1532/C/-X	TRANSISTOR
Q602	2SA1532/C/-X	TRANSISTOR
Q603	2SC4226/4/-X	TRANSISTOR

▲ REF No. PART No. PART NAME, DESCRIPTION

Q604	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q605	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q606	2SC4226/4/-X	TRANSISTOR
Q607	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q608	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q609	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q610	2SC3930/C/-X	TRANSISTOR
Q611	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q612	2SC3930/C/-X	TRANSISTOR
Q613	2SC4670	TRANSISTOR
Q614	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q615	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q616	2SC3930/C/-X	TRANSISTOR
Q617	2SC4670	TRANSISTOR
Q618	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q619	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q620	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q621	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q622	UN5211	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
Q623	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q624	UN5211	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
Q625	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q1701	2SA1576A/QR/-X	TRANSISTOR
Q1702	2SA1576A/QR/-X	TRANSISTOR

▲ REF No. PART No. PART NAME, DESCRIPTION

Q1703	UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q1704	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1705	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q1706	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q2271	UN511E	TRANSISTOR
	or RN2309	TRANSISTOR
	or DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
Q2272	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q2273	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q2277	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2278	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q2279	UN5111	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
	or DTA114EU	TRANSISTOR
Q2280	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2281	UN5111	TRANSISTOR
	or RN2302	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
Q2282	UN5111	TRANSISTOR
	or RN2302	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
Q2283	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or DTC144WU	TRANSISTOR
D601	1SS133	DIODE
D602	1SS133	DIODE
D603	1SS133	DIODE
R601	NRSA02J-471X	MG RESISTOR 470Ω, 1/10W
R602	NRSA02J-471X	MG RESISTOR 470Ω, 1/10W
R603	NRVA02D-100X	CMF RESISTOR 10Ω, 1/10W
R604	NRVA02D-100X	CMF RESISTOR 10Ω, 1/10W
R605	NRSA02J-154X	MG RESISTOR 150kΩ, 1/10W
R606	NRSA02J-391X	MG RESISTOR 390Ω, 1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION		#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
R607		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	R2271		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R608		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	△ R2272		NRSA02J-220X	MG RESISTOR	22Ω,1/10W
R609		NRSA02J-331X	MG RESISTOR	330Ω,1/10W	△ R2273		NRSA02J-220X	MG RESISTOR	22Ω,1/10W
R610		NRSA02J-154X	MG RESISTOR	150kΩ,1/10W	R2274		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R611		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	R2275		NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R612		NRSA02J-334X	MG RESISTOR	330kΩ,1/10W	R2277		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R613		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2278		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R614		NRSA02J-151X	MG RESISTOR	150Ω,1/10W	R2283		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R615		NRSA02J-750X	MG RESISTOR	75Ω,1/10W	R2284		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R616		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2285		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R617		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2286		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R618		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2287		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R619		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2288		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R620		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	R2289		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R621		NRSA02J-563X	MG RESISTOR	56kΩ,1/10W	R2290		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R622		NRSA02J-153X	MG RESISTOR	15kΩ,1/10W	R2291		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R624		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	R2292		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R625		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	R2293		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R626		NRSA02J-151X	MG RESISTOR	150Ω,1/10W	R2295		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R627		NRSA02J-560X	MG RESISTOR	56Ω,1/10W	VR2271		QVZ3521-102Z	V RESISTOR,FMA REC LEVEL	
R628		NRSA02J-473X	MG RESISTOR	47kΩ,1/10W	VR6021		QVZ3521-101Z	V RESISTOR,DVHS REC LEVEL	
R629		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C601		NCB21HK-103X	CAPACITOR	0.01μF,50V
R630		NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W	C602		NCB21HK-103X	CAPACITOR	0.01μF,50V
R631		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C603		NCB21AK-105X	CAPACITOR	1μF,10V
R632		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	C604		QEKJ0JM-107	E CAPACITOR	100μF,6.3V
R633		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C605		NCB21HK-103X	CAPACITOR	0.01μF,50V
R634		NRSA02J-561X	MG RESISTOR	560Ω,1/10W	C606		NCB21AK-105X	CAPACITOR	1μF,10V
R635		NRVA02D-330X	CMF RESISTOR	33Ω,1/10W	C607		NCB21EK-104X	CAPACITOR	0.1μF,25V
R636		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C608		NCB21AK-105X	CAPACITOR	1μF,10V
R637		NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W	C609		NCB21EK-104X	CAPACITOR	0.1μF,25V
R638		NRSA02J-470X	MG RESISTOR	47Ω,1/10W	C610		NCB21HK-103X	CAPACITOR	0.01μF,50V
R639		NRSA02J-101X	MG RESISTOR	100Ω,1/10W	C611		NCB21EK-104X	CAPACITOR	0.1μF,25V
R640		NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C612		NCB21HK-103X	CAPACITOR	0.01μF,50V
R641		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C613		NCB21HK-103X	CAPACITOR	0.01μF,50V
R642		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C614		QEKJ0JM-107	E CAPACITOR	100μF,6.3V
R643		NRSA02J-153X	MG RESISTOR	15kΩ,1/10W	C615		NCB21HK-103X	CAPACITOR	0.01μF,50V
R644		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C616		QEKJ0JM-107	E CAPACITOR	100μF,6.3V
R645		NRSA02J-561X	MG RESISTOR	560Ω,1/10W	C617		NCB21HK-102X	CAPACITOR	0.001μF,50V
R646		NRVA02D-330X	CMF RESISTOR	33Ω,1/10W	C619		NCB21HK-103X	CAPACITOR	0.01μF,50V
R647		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C620		NCB21HK-102X	CAPACITOR	0.001μF,50V
R648		NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W	C621		NDC21HJ-471X	CAPACITOR	470pF,50V
R649		NRSA02J-470X	MG RESISTOR	47Ω,1/10W	C623		NCB21HK-103X	CAPACITOR	0.01μF,50V
R650		NRSA02J-101X	MG RESISTOR	100Ω,1/10W	C624		QEKJ1CM-107	E CAPACITOR	100μF,16V
R651		NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C625		NCB21AK-105X	CAPACITOR	1μF,10V
R652		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C626		NCB21EK-104X	CAPACITOR	0.1μF,25V
R653		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C627		NCB21AK-105X	CAPACITOR	1μF,10V
R654		NRSA02J-153X	MG RESISTOR	15kΩ,1/10W	C628		NCB21AK-105X	CAPACITOR	1μF,10V
R655		NRSA02J-151X	MG RESISTOR	150Ω,1/10W	C629		NCB21AK-105X	CAPACITOR	1μF,10V
R656		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C630		NCB21EK-104X	CAPACITOR	0.1μF,25V
R657		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C631		NCB21AK-105X	CAPACITOR	1μF,10V
R658		NRSA02J-750X	MG RESISTOR	75Ω,1/10W	C632		NCB21AK-105X	CAPACITOR	1μF,10V
R659		NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C633		NCB21EK-104X	CAPACITOR	0.1μF,25V
R660		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C634		NCB21AK-105X	CAPACITOR	1μF,10V
R1701		NRSA02J-221X	MG RESISTOR	220Ω,1/10W	C636		QEKJ0JM-107	E CAPACITOR	100μF,6.3V
R1702		NRSA02J-681X	MG RESISTOR	680Ω,1/10W	C640		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1703		NRSA02J-561X	MG RESISTOR	560Ω,1/10W	C641		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1704		NRSA02J-393X	MG RESISTOR	39kΩ,1/10W	C642		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1705		NRSA02J-683X	MG RESISTOR	68kΩ,1/10W	C1701		NCB21HK-223X	CAPACITOR	0.022μF,50V
R1706		NRSA02J-393X	MG RESISTOR	39kΩ,1/10W	C1702		NDC21HJ-470X	CAPACITOR	47pF,50V
R1707		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W	C1703		NDC21HJ-470X	CAPACITOR	47pF,50V
R1708		NRSA02J-473X	MG RESISTOR	47kΩ,1/10W	C1704		NDC21HJ-101X	CAPACITOR	100pF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION
C1705			NCB21HK-102X	CAPACITOR	0.001μF,50V	IC9002			S-80727AN-DQ-X	IC
C1706			NDC21HJ-150X	CAPACITOR	15pF,50V	IC9003			AT25080N-10SC-X	IC
C1707			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9004			SN74LV573APW	IC
C1708			QEKJ1CM-106	E CAPACITOR	10μF,16V	IC9005			SN74LV573APW	IC
C1709			NCB21EK-104X	CAPACITOR	0.1μF,25V	IC9006			SN74LV573APW	IC
C2271			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9007			MBV800TA10PT	IC(MICRO C ROM)
C2272			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9008			UPD43256BGWA85	IC
C2273			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9009			SN74HCT08APW	IC
C2274			QEKJ1CM-476	E CAPACITOR	47μF,16V	IC9010			SN74HCT08APW	IC
C2275			NCB21EK-104X	CAPACITOR	0.1μF,25V	IC9011			SN74HCT08APW	IC
C2276			NDC21HJ-101X	CAPACITOR	100pF,50V	IC9012			SN74LV08APW	IC
C2277			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9013			SN74LV08APW	IC
C2278			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9014			TC7W32FU	IC(DIGITAL)
C2279			NCB21HK-223X	CAPACITOR	0.022μF,50V	IC9015			TC74HC4066AFT	IC(DIGITAL)
C2280			NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W	IC9016			TC7S14FU	IC(DIGITAL)
C2282			NDC21HJ-121X	CAPACITOR	120pF,50V	IC9017			TC7SH04FU	IC(DIGITAL)
C2285			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9301			JCP8023	IC
C2286			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9302			KM416S1120DT-G8	IC
C2287			NCB21HK-103X	CAPACITOR	0.01μF,50V	IC9303			BA10358F-XE	IC
L601			QQL29BJ-100Z	COIL	10μH	IC9304			NAX0171-001X	CXO
L602			QQL29BJ-100Z	COIL	10μH	IC9305			SN74LVCU04APW	IC(DIGITAL)
L603			QQL29BJ-100Z	COIL	10μH	IC9307			SN74LVCU04APW	IC(DIGITAL)
L604			QQL29BJ-101Z	COIL	100μH	IC9601			JCP8025	IC
L605			QQL29BJ-101Z	COIL	100μH	IC9603			TMS320C31PQL60	IC
L1701			QQL01BJ-150Z	COIL	15μH	IC9801			AK4518-VF-X	IC
L1702			QQL29BJ-101Z	COIL	100μH	IC9802			BA15218F-XE	IC
L2271			QQL29BJ-100Z	COIL	10μH	IC9803			BA15218F-XE	IC
L2272			QQL231J-1R8Y	COIL	1.8μH	Q8101			UMT2N	PAIR TRANSISTOR
SD1			PQ21805-2	SHIELD FLAME		Q8102			UMT2N	PAIR TRANSISTOR
CN601			QNN0161-001	PIN JACK,REC_DATA		Q8103			UMW2N	PAIR TRANSISTOR
CN602			QNN0161-001	PIN JACK,PB_DATA		Q8104			2SC3930/C/-X	TRANSISTOR
CN603			QGB2024J1-09S	CONNECTOR,(1-9)MAIN		Q8105			2SA1532/C/-X	TRANSISTOR
CN604			QGB2024J1-10S	CONNECTOR,(1-10)MAIN		Q8106			2SD1819A/QRS/-X	TRANSISTOR
CN605			QGF1202C1-07	FPC CONNECTOR,(1-7)U.DRUM					or 2SC4081/QRS/-X	TRANSISTOR
									or 2PC4081/R/-X	TRANSISTOR

DIGITAL BOARD ASSEMBLY <50>

PW1	LPA10084-01E	DIGITAL BOARD ASSY
IC8001	JCP8005	IC(DIGITAL)
IC8002	GLT441L16-40TC	IC
	or MN41V4260TT-A07	IC(DIGITAL)
IC8101	JCP8009	IC
IC8102	TLC2932	IC
IC8110	TC7SH04FU	IC(DIGITAL)
IC8111	TC7SH08FU	IC(DIGITAL)
IC8401	DVXPLOREP308B01C	
IC8402	KM416S1120DT-G8	IC
IC8403	KM416S1120DT-G8	IC
IC8404	KM416S1120DT-G8	IC
IC8405	KM416S1120DT-G8	IC
IC8406	TC7SHU04FU	IC(DIGITAL)
IC8407	TC7SHU04FU	IC(DIGITAL)
IC8601	JCP8019	IC
IC8602	MS81V04160-25TB	IC
	or MS81V04160-30TB	IC
IC9001	MN1030F04KHFFN	IC

Q8107	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8108	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8109	2SC3930/C/-X	TRANSISTOR
Q8110	2SC3930/C/-X	TRANSISTOR
Q8111	2SA1532/C/-X	TRANSISTOR
Q8112	2SC4670	TRANSISTOR
Q8115	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8120	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8121	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8601	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8602	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q8603	2SD1819A/QRS/-X	TRANSISTOR

▲ REF No. PART No. PART NAME, DESCRIPTION

Q8604	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8605	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8606	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	2SD1819A/RS/-X	TRANSISTOR
Q8607	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/RS/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8608	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8609	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8610	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8611	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8612	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8613	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8614	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8615	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8616	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8627	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8628	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8629	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8630	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	2SB1218A/QR/-X	TRANSISTOR
Q8631	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	DTC144EU	TRANSISTOR
Q8632	2SD1819A/QRS/-X	TRANSISTOR
Q8633	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8634	2SD1819A/QRS/-X	TRANSISTOR

▲ REF No. PART No. PART NAME, DESCRIPTION

Q8635	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8636	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q8637	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	2SD1819A/QRS/-X	TRANSISTOR
Q9001	DTC144EE	TRANSISTOR
Q9002	DTC144EE	TRANSISTOR
Q9301	DTA114ES	TRANSISTOR
Q9617	2SB1302/ST/-X	TRANSISTOR
Q9618	DTC144EE	TRANSISTOR
Q9801	DTA144WU	TRANSISTOR
Q9802	DTC144WU	TRANSISTOR
Q9803	2SC4081/QRS/-X	TRANSISTOR
Q9804	2SC4081/QRS/-X	TRANSISTOR
D8001	1SS357	SB DIODE
D8601	1SS355	DIODE
D9001	DAN202U	DIODE
D9002	1SS355	DIODE
D9003	1SS355	DIODE
D9004	1SS355	DIODE
D9301	MA304	VARI CAP DIODE
R8001	NRSA63J-105X	MG RESISTOR 1MΩ,1/16W
R8002	NRSA63J-470X	MG RESISTOR 47Ω,1/16W
R8003	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8004	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8005	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
R8006	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8007	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8008	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
R8013	NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W
R8101	NRSA63J-220X	MG RESISTOR 22Ω,1/16W
R8102	NRSA63J-151X	MG RESISTOR 150Ω,1/16W
R8103	NRSA63J-220X	MG RESISTOR 22Ω,1/16W
R8104	NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W
R8105	NRSA63J-562X	MG RESISTOR 5.6kΩ,1/16W
R8112	NRSA63J-221X	MG RESISTOR 220Ω,1/16W
R8113	NRSA63J-391X	MG RESISTOR 390Ω,1/16W
R8122	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
R8123	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
R8125	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8126	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8127	NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W
R8128	NRSA63J-152X	MG RESISTOR 1.5kΩ,1/16W
R8129	NRSA63J-152X	MG RESISTOR 1.5kΩ,1/16W
R8130	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
R8131	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
R8132	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
R8134	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
R8135	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
R8136	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
R8137	NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W
R8141	NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W
R8146	NRSA63J-102X	MG RESISTOR 1kΩ,1/16W
R8147	NRSA63J-392X	MG RESISTOR 3.9kΩ,1/16W
R8151	NRSA63J-750X	MG RESISTOR 75Ω,1/16W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
R8152			NRSA63J-333X	MG RESISTOR	33kΩ, 1/16W	R8411			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8153			NRSA63J-123X	MG RESISTOR	12kΩ, 1/16W	R8412			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8154			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8413			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8155			NRSA63J-561X	MG RESISTOR	560Ω, 1/16W	R8414			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8156			NRSA63J-101X	MG RESISTOR	100Ω, 1/16W	R8415			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8157			NRSA63J-101X	MG RESISTOR	100Ω, 1/16W	R8416			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8158			NRSA63J-272X	MG RESISTOR	2.7kΩ, 1/16W	R8417			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8159			NRSA63J-681X	MG RESISTOR	680Ω, 1/16W	R8418			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8160			NRSA63J-331X	MG RESISTOR	330Ω, 1/16W	R8419			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8161			NRSA63J-331X	MG RESISTOR	330Ω, 1/16W	R8420			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8162			NRSA63J-153X	MG RESISTOR	15kΩ, 1/16W	R8421			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8163			NRSA63J-752X	MG RESISTOR	7.5kΩ, 1/16W	R8422			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8165			NRSA63J-391X	MG RESISTOR	390Ω, 1/16W	R8423			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8166			NRSA63J-471X	MG RESISTOR	470Ω, 1/16W	R8424			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8167			NRSA63J-153X	MG RESISTOR	15kΩ, 1/16W	R8425			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8171			NRSA63J-152X	MG RESISTOR	1.5kΩ, 1/16W	R8426			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8172			NRSA63J-472X	MG RESISTOR	4.7kΩ, 1/16W	R8427			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8173			NRSA63J-182X	MG RESISTOR	1.8kΩ, 1/16W	R8428			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8174			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8429			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R8175			NRSA63J-471X	MG RESISTOR	470Ω, 1/16W	R8433			NRSA63J-105X	MG RESISTOR	1MΩ, 1/16W
R8176			NRSA63J-681X	MG RESISTOR	680Ω, 1/16W	R8434			NRSA63J-470X	MG RESISTOR	47Ω, 1/16W
R8177			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8436			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R8178			NRSA63J-471X	MG RESISTOR	470Ω, 1/16W	R8601			NRSA63J-393X	MG RESISTOR	39kΩ, 1/16W
R8179			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8602			NRSA63J-273X	MG RESISTOR	27kΩ, 1/16W
R8180			NRSA63J-681X	MG RESISTOR	680Ω, 1/16W	R8603			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8181			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8606			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8183			NRSA63J-101X	MG RESISTOR	100Ω, 1/16W	R8607			NRSA63J-391X	MG RESISTOR	390Ω, 1/16W
R8184			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W	R8608			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R8185			NRSA63J-272X	MG RESISTOR	2.7kΩ, 1/16W	R8609			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8186			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8610			NRSA63J-183X	MG RESISTOR	18kΩ, 1/16W
R8231			NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W	R8611			NRSA63J-222X	MG RESISTOR	2.2kΩ, 1/16W
R8232			NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W	R8612			NRSA63J-471X	MG RESISTOR	470Ω, 1/16W
R8233			NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W	R8613			NRSA63J-183X	MG RESISTOR	18kΩ, 1/16W
R8234			NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W	R8614			NRSA63J-222X	MG RESISTOR	2.2kΩ, 1/16W
R8235			NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W	R8615			NRSA63J-471X	MG RESISTOR	470Ω, 1/16W
R8236			NRVA63D-102X	CMF RESISTOR	1kΩ, 1/16W	R8616			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R8237			NRVA63D-102X	CMF RESISTOR	1kΩ, 1/16W	R8617			NRSA63J-223X	MG RESISTOR	22kΩ, 1/16W
R8238			NRVA63D-102X	CMF RESISTOR	1kΩ, 1/16W	R8618			NRSA63J-273X	MG RESISTOR	27kΩ, 1/16W
R8239			NRVA63D-102X	CMF RESISTOR	1kΩ, 1/16W	R8619			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R8249			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R8620			NRSA63J-183X	MG RESISTOR	18kΩ, 1/16W
R8250			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8621			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8251			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8622			NRSA63J-222X	MG RESISTOR	2.2kΩ, 1/16W
R8252			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8623			NRSA63J-152X	MG RESISTOR	1.5kΩ, 1/16W
R8253			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8624			NRSA63J-183X	MG RESISTOR	18kΩ, 1/16W
R8254			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8625			NRSA63J-472X	MG RESISTOR	4.7kΩ, 1/16W
R8255			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8626			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R8256			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8627			NRSA63J-331X	MG RESISTOR	330Ω, 1/16W
R8257			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8628			NRSA63J-331X	MG RESISTOR	330Ω, 1/16W
R8258			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8629			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8260			NRSA63J-472X	MG RESISTOR	4.7kΩ, 1/16W	R8630			NRSA63J-222X	MG RESISTOR	2.2kΩ, 1/16W
R8261			NRSA63J-472X	MG RESISTOR	4.7kΩ, 1/16W	R8631			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8401			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W	R8632			NRSA63J-183X	MG RESISTOR	18kΩ, 1/16W
R8402			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W	R8633			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R8403			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W	R8634			NRSA63J-391X	MG RESISTOR	390Ω, 1/16W
R8404			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8635			NRSA63J-561X	MG RESISTOR	560Ω, 1/16W
R8405			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R8637			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8406			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R8638			NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R8407			NRSA63J-101X	MG RESISTOR	100Ω, 1/16W	R8639			NRSA63J-223X	MG RESISTOR	22kΩ, 1/16W
R8408			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8640			NRSA63J-273X	MG RESISTOR	27kΩ, 1/16W
R8409			NRSA63J-750X	MG RESISTOR	75Ω, 1/16W	R8641			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R8410			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R8642			NRVA63D-750X	CMF RESISTOR	75Ω, 1/16W

△ REF No.	PART No.	PART NAME, DESCRIPTION	# △ REF No.	PART No.	PART NAME, DESCRIPTION
R8656	NRVA63D-820X	CMF RESISTOR 82Ω, 1/16W	R9036	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8670	NRVA63D-820X	CMF RESISTOR 82Ω, 1/16W	R9037	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8671	NRSA63J-821X	MG RESISTOR 820Ω, 1/16W	R9038	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8672	NRSA63J-222X	MG RESISTOR 2.2kΩ, 1/16W	R9039	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8673	NRSA63J-821X	MG RESISTOR 820Ω, 1/16W	R9040	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8674	NRSA63J-183X	MG RESISTOR 18kΩ, 1/16W	R9041	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8675	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W	R9042	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8676	NRSA63J-391X	MG RESISTOR 390Ω, 1/16W	R9043	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8677	NRSA63J-561X	MG RESISTOR 560Ω, 1/16W	R9044	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8679	NRSA63J-821X	MG RESISTOR 820Ω, 1/16W	R9045	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8680	NRSA63J-821X	MG RESISTOR 820Ω, 1/16W	R9046	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8681	NRSA63J-273X	MG RESISTOR 27kΩ, 1/16W	R9047	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8682	NRSA63J-273X	MG RESISTOR 27kΩ, 1/16W	R9048	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8683	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W	R9049	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8684	NRVA63D-151X	CMF RESISTOR 150Ω, 1/16W	R9050	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8685	NRVA63D-681X	CMF RESISTOR 680Ω, 1/16W	R9051	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8686	NRVA63D-271X	CMF RESISTOR 270Ω, 1/16W	R9052	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8687	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9055	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8688	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9056	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8689	NRSA63J-101X	MG RESISTOR 100Ω, 1/16W	R9057	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8690	NRSA63J-680X	MG RESISTOR 68Ω, 1/16W	R9058	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8691	NRVA63D-182X	CMF RESISTOR 1.8kΩ, 1/16W	R9059	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8692	NRVA63D-242X	CMF RESISTOR 2.4kΩ, 1/16W	R9060	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8693	NRVA63D-152X	CMF RESISTOR 1.5kΩ, 1/16W	R9061	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8694	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W	R9062	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8695	NRSA63J-122X	MG RESISTOR 1.2kΩ, 1/16W	R9063	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8698	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9064	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8702	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9065	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8703	NRSA63J-180X	MG RESISTOR 18Ω, 1/16W	R9066	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8705	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9067	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W
R8707	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W	R9068	NRSA63J-471X	MG RESISTOR 470Ω, 1/16W
R8710	NRSA63J-101X	MG RESISTOR 100Ω, 1/16W	R9069	NRSA63J-471X	MG RESISTOR 470Ω, 1/16W
R8711	NRSA63J-101X	MG RESISTOR 100Ω, 1/16W	R9072	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W
R8712	NRVA63D-152X	CMF RESISTOR 1.5kΩ, 1/16W	R9073	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8713	NRVA63D-242X	CMF RESISTOR 2.4kΩ, 1/16W	R9074	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8714	NRVA63D-182X	CMF RESISTOR 1.8kΩ, 1/16W	R9075	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8719	NRSA63J-681X	MG RESISTOR 680Ω, 1/16W	R9076	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8720	NRSA63J-821X	MG RESISTOR 820Ω, 1/16W	R9077	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R8721	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W	R9078	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9002	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9079	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9004	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9080	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9005	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9081	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9006	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9082	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9007	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W	R9083	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9008	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9084	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9012	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9085	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9013	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9086	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9014	NRSA63J-331X	MG RESISTOR 330Ω, 1/16W	R9087	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9016	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9088	NRSA63J-223X	MG RESISTOR 22kΩ, 1/16W
R9020	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9089	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9021	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9090	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9023	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9092	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9024	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9093	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9025	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W	R9094	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9027	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9095	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9028	NRSA63J-472X	MG RESISTOR 4.7kΩ, 1/16W	R9096	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W
R9029	NRSA63J-472X	MG RESISTOR 4.7kΩ, 1/16W	R9097	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W
R9032	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W	R9098	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W
R9033	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W	R9101	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W
R9034	NRSA63J-0R0X	MG RESISTOR 0Ω, 1/16W	R9102	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W
R9035	NRSA63J-221X	MG RESISTOR 220Ω, 1/16W	R9103	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
R9104			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9347		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9106			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R9350		NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R9108			NRSA63J-331X	MG RESISTOR	330Ω, 1/16W	R9351		NRSA63J-123X	MG RESISTOR	12kΩ, 1/16W
R9109			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9352		NRSA63J-681X	MG RESISTOR	680Ω, 1/16W
R9110			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9353		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9111			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9354		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9112			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9355		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9113			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9356		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9114			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9359		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9116			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9360		NRSA63J-105X	MG RESISTOR	1MΩ, 1/16W
R9125			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9361		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9126			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9601		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9127			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9604		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9128			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9607		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9130			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9610		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9131			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9613		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9132			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9616		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9141			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9619		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9147			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R9622		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9148			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R9626		NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R9149			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R9627		NRSA63J-471X	MG RESISTOR	470Ω, 1/16W
R9301			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9628		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9302			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9649		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9303			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9650		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9304			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9651		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9305			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9652		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9306			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9653		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9307			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9654		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9308			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9655		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9309			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9656		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9310			NRSA63J-470X	MG RESISTOR	47Ω, 1/16W	R9657		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9311			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9658		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9312			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9659		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9313			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9660		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9314			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9661		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9315			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9662		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9316			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9663		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9317			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9664		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9318			NRSA63J-104X	MG RESISTOR	100kΩ, 1/16W	R9665		NRSA63J-203X	MG RESISTOR	20kΩ, 1/16W
R9320			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9666		NRSA63J-203X	MG RESISTOR	20kΩ, 1/16W
R9321			NRSA63J-101X	MG RESISTOR	100Ω, 1/16W	R9667		NRSA63J-203X	MG RESISTOR	20kΩ, 1/16W
R9322			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9668		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9323			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9669		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9324			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9670		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9325			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9673		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9326			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9674		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9327			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9675		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9328			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	R9676		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9329			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9677		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9330			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9678		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9331			NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W	R9679		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9332			NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W	R9680		NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R9334			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9682		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9335			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9801		NRSA63J-182X	MG RESISTOR	1.8kΩ, 1/16W
R9338			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9802		NRSA63J-182X	MG RESISTOR	1.8kΩ, 1/16W
R9340			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9803		NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R9341			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9804		NRSA63J-821X	MG RESISTOR	820Ω, 1/16W
R9343			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9805		NRSA63J-100X	MG RESISTOR	10Ω, 1/16W
R9344			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9811		NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R9345			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9812		NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R9346			NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W	R9813		NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	#	△ REF No.	PART No.	PART NAME, DESCRIPTION
R9814		NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W	RA9313		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9815		NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W	RA9314		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9816		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9315		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9817		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9316		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9818		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9317		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9819		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9318		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9820		NRSA63J-302X	MG RESISTOR 3kΩ,1/16W	RA9319		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W
R9821		NRSA63J-302X	MG RESISTOR 3kΩ,1/16W	RA9320		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9824		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9321		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9825		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9323		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9826		NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W	RA9324		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9827		NRSA63J-222X	MG RESISTOR 2.2kΩ,1/16W	RA9325		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9828		NRSA63J-221X	MG RESISTOR 220Ω,1/16W	RA9326		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9829		NRSA63J-221X	MG RESISTOR 220Ω,1/16W	RA9327		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9830		NRSA63J-102X	MG RESISTOR 1kΩ,1/16W	RA9328		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9831		NRSA63J-103X	MG RESISTOR 10kΩ,1/16W	RA9329		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9832		NRSA63J-103X	MG RESISTOR 10kΩ,1/16W	RA9330		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9833		NRSA63J-391X	MG RESISTOR 390Ω,1/16W	RA9331		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9834		NRSA63J-391X	MG RESISTOR 390Ω,1/16W	RA9332		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9835		NRSA63J-104X	MG RESISTOR 100kΩ,1/16W	RA9333		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
R9836		NRSA63J-104X	MG RESISTOR 100kΩ,1/16W	RA9601		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
VR8601		QVP0039-102Z	TRIM RESISTOR, CODEC ADY IN	RA9602		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8001		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9603		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8002		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9604		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8003		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9605		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8004		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9606		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8005		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	RA9607		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8006		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	RA9608		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8007		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	RA9609		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8008		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9610		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8009		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9611		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8010		NRZ0040-473X	NET RESISTOR 47kΩ,1/16W	RA9612		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W
RA8011		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8001		NDC31HJ-220X	CAPACITOR 22pF,50V
RA8012		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8002		NDC31HJ-270X	CAPACITOR 27pF,50V
RA8013		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8003		NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
RA8014		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8004		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA8015		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8005		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA8016		NRZ0040-470X	NET RESISTOR 47Ω,1/16W	C8006		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA8017		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8007		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA8601		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8008		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA8602		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8010		NBE20JM-226X	T CAPACITOR 22μF,6.3V
RA8603		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8101		NDC31HJ-100X	CAPACITOR 10pF,50V
RA8604		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8102		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9001		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8103		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9002		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8104		NBE20JM-106X	T CAPACITOR 10μF,6.3V
RA9003		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8105		NBE20JM-106X	T CAPACITOR 10μF,6.3V
RA9004		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8106		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9005		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8107		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9006		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8108		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9301		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8109		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9302		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8110		NBE20JM-226X	T CAPACITOR 22μF,6.3V
RA9303		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8111		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9304		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8112		NBE20JM-226X	T CAPACITOR 22μF,6.3V
RA9305		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8113		NDC31HJ-100X	CAPACITOR 10pF,50V
RA9306		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8114		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9307		NRZ0040-103X	NET RESISTOR 10kΩ,1/16W	C8115		NCF31CZ-224X	CAPACITOR 0.22μF,16V
RA9308		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8116		NCF31CZ-224X	CAPACITOR 0.22μF,16V
RA9309		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8121		NCF31CZ-104X	CAPACITOR 0.1μF,16V
RA9310		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8127		NCB31HK-103X	CAPACITOR 0.01μF,50V
RA9311		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8129		NEA70JM-476X	E CAPACITOR 47μF,6.3V
RA9312		NRZ0040-0R0X	NET RESISTOR 0Ω,1/16W	C8130		NCB31HK-103X	CAPACITOR 0.01μF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C8131			NEA70JM-476X	E CAPACITOR	47μF,6.3V	C8447			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8141			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8448			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8147			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8449			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8148			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8450			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8149			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8451			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8150			NEA71CM-476X	E CAPACITOR	47μF,16V	C8452			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8151			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8453			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8152			NBE20JM-226X	T CAPACITOR	22μF,6.3V	C8454			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8162			NCB31EK-123X	CAPACITOR	0.012μF,25V	C8455			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8163			NCB21AK-105X	CAPACITOR	1μF,10V	C8456			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8164			NDC31HJ-100X	CAPACITOR	10pF,50V	C8457			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8166			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8458			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8167			NEA70JM-476X	E CAPACITOR	47μF,6.3V	C8459			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8196			NBP21CM-105X	T CAPACITOR	1μF,16V	C8460			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8197			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8462			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
C8198			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8463			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8199			NCB31HK-103X	CAPACITOR	0.01μF,50V	C8464			NDC31HJ-100X	CAPACITOR	10pF,50V
C8401			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8465			NDC31HJ-100X	CAPACITOR	10pF,50V
C8402			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8601			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8403			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8602			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8404			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8603			NDC31HJ-8R0X	CAPACITOR	8pF,50V
C8405			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8604			NDC31HJ-150X	CAPACITOR	15pF,50V
C8406			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8605			NDC31HJ-390X	CAPACITOR	39pF,50V
C8407			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8606			NDC31HJ-330X	CAPACITOR	33pF,50V
C8408			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8607			NCB30JK-105X	CAPACITOR	1μF,6.3V
C8409			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8608			NBE20JM-106X	T CAPACITOR	10μF,6.3V
C8410			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8609			NEA70JM-107X	E CAPACITOR	100μF,6.3V
C8411			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8610			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8412			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8611			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8413			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8612			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8414			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8613			NDC31HJ-8R0X	CAPACITOR	8pF,50V
C8415			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8614			NDC31HJ-150X	CAPACITOR	15pF,50V
C8416			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8615			NDC31HJ-390X	CAPACITOR	39pF,50V
C8417			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8616			NDC31HJ-330X	CAPACITOR	33pF,50V
C8418			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8617			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8419			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8618			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8422			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8619			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8423			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8620			NEA70JM-107X	E CAPACITOR	100μF,6.3V
C8424			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8621			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8425			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8622			NDC31HJ-330X	CAPACITOR	33pF,50V
C8426			NDC31HJ-470X	CAPACITOR	47pF,50V	C8623			NDC31HJ-390X	CAPACITOR	39pF,50V
C8427			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8624			NDC31HJ-150X	CAPACITOR	15pF,50V
C8428			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C8625			NDC31HJ-8R0X	CAPACITOR	8pF,50V
C8429			NDC31HJ-470X	CAPACITOR	47pF,50V	C8626			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8430			NDC31HJ-470X	CAPACITOR	47pF,50V	C8627			NCB31HK-103X	CAPACITOR	0.01μF,50V
C8431			NDC31HJ-470X	CAPACITOR	47pF,50V	C8628			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8432			NDC31HJ-470X	CAPACITOR	47pF,50V	C8641			NBE20JM-106X	T CAPACITOR	10μF,6.3V
C8433			NDC31HJ-470X	CAPACITOR	47pF,50V	C8642			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8434			NDC31HJ-470X	CAPACITOR	47pF,50V	C8643			NDC31HJ-330X	CAPACITOR	33pF,50V
C8435			NDC31HJ-470X	CAPACITOR	47pF,50V	C8644			NDC31HJ-390X	CAPACITOR	39pF,50V
C8436			NDC31HJ-470X	CAPACITOR	47pF,50V	C8645			NDC31HJ-120X	CAPACITOR	12pF,50V
C8437			NDC31HJ-470X	CAPACITOR	47pF,50V	C8646			NDC31HJ-8R0X	CAPACITOR	8pF,50V
C8438			NDC31HJ-470X	CAPACITOR	47pF,50V	C8647			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8439			NDC31HJ-470X	CAPACITOR	47pF,50V	C8648			NBE20JM-106X	T CAPACITOR	10μF,6.3V
C8440			NDC31HJ-470X	CAPACITOR	47pF,50V	C8649			NBE40JM-476X	T CAPACITOR	47μF,6.3V
C8441			NDC31HJ-470X	CAPACITOR	47pF,50V	C8650			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8442			NDC31HJ-470X	CAPACITOR	47pF,50V	C8651			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8443			NDC31HJ-470X	CAPACITOR	47pF,50V	C8652			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8444			NDC31HJ-470X	CAPACITOR	47pF,50V	C8653			NCB30JK-105X	CAPACITOR	1μF,6.3V
C8445			NDC31HJ-470X	CAPACITOR	47pF,50V	C8654			NCB30JK-105X	CAPACITOR	1μF,6.3V
C8446			NDC31HJ-470X	CAPACITOR	47pF,50V	C8655			NCF31CZ-104X	CAPACITOR	0.1μF,16V

△ REF No.	PART No.	PART NAME, DESCRIPTION		# △ REF No.	PART No.	PART NAME, DESCRIPTION	
C8656	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9018	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8657	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9019	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8658	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C9020	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8659	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9021	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8660	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C9022	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8661	NCB30JK-105X	CAPACITOR	1μF,6.3V	C9023	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8662	NCB30JK-105X	CAPACITOR	1μF,6.3V	C9024	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8663	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9025	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8664	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9026	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8665	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9027	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8666	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9028	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8667	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9029	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8668	NCB30JK-105X	CAPACITOR	1μF,6.3V	C9030	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8669	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9031	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8670	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9032	NDC31HJ-470X	CAPACITOR	47pF,50V
C8671	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9033	NDC31HJ-470X	CAPACITOR	47pF,50V
C8672	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9034	NDC31HJ-470X	CAPACITOR	47pF,50V
C8673	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9035	NDC31HJ-470X	CAPACITOR	47pF,50V
C8674	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9036	NDC31HJ-470X	CAPACITOR	47pF,50V
C8675	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9037	NDC31HJ-470X	CAPACITOR	47pF,50V
C8676	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9038	NDC31HJ-470X	CAPACITOR	47pF,50V
C8677	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9039	NDC31HJ-470X	CAPACITOR	47pF,50V
C8678	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9040	NDC31HJ-470X	CAPACITOR	47pF,50V
C8679	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9041	NDC31HJ-470X	CAPACITOR	47pF,50V
C8680	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9042	NDC31HJ-470X	CAPACITOR	47pF,50V
C8681	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9043	NDC31HJ-470X	CAPACITOR	47pF,50V
C8682	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9044	NDC31HJ-470X	CAPACITOR	47pF,50V
C8683	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9045	NDC31HJ-470X	CAPACITOR	47pF,50V
C8684	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9046	NDC31HJ-470X	CAPACITOR	47pF,50V
C8685	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9047	NDC31HJ-470X	CAPACITOR	47pF,50V
C8686	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9048	NDC31HJ-470X	CAPACITOR	47pF,50V
C8687	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9049	NDC31HJ-470X	CAPACITOR	47pF,50V
C8688	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9054	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8689	NCF21HZ-104X	CAPACITOR	0.1μF,50V	C9055	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8690	NCF21HZ-104X	CAPACITOR	0.1μF,50V	C9057	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8691	NCF21HZ-104X	CAPACITOR	0.1μF,50V	C9058	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8692	NCF21HZ-104X	CAPACITOR	0.1μF,50V	C9059	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8693	NBE20JM-226X	T CAPACITOR	22μF,6.3V	C9063	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C8694	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W	C9065	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8695	QETJ0JM-477	E CAPACITOR	470μF,6.3V	C9066	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8696	NDC31HJ-470X	CAPACITOR	47pF,50V	C9301	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8697	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C9302	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8698	QETJ0JM-477	E CAPACITOR	470μF,6.3V	C9303	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8700	NDC31HJ-100X	CAPACITOR	10pF,50V	C9304	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8701	NDC31HJ-100X	CAPACITOR	10pF,50V	C9305	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8702	NDC31HJ-470X	CAPACITOR	47pF,50V	C9306	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9001	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9307	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9002	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9308	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9003	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9309	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9004	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C9310	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9005	NCB31HK-103X	CAPACITOR	0.01μF,50V	C9311	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9006	NDC31HJ-200X	CAPACITOR	20pF,50V	C9312	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9007	NDC31HJ-200X	CAPACITOR	20pF,50V	C9313	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9008	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9314	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9009	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9317	NDC31HJ-5R0X	CAPACITOR	5pF,50V
C9010	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9319	NCB31HK-102X	CAPACITOR	0.001μF,50V
C9011	NCB31HK-103X	CAPACITOR	0.01μF,50V	C9320	NCB30JK-105X	CAPACITOR	1μF,6.3V
C9012	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9322	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9013	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9327	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9016	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9329	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C9017	NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9330	NCB31HK-103X	CAPACITOR	0.01μF,50V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C9331			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9811			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9332			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9812			NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C9333			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9813			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9334			NCB31HK-152X	CAPACITOR	0.0015μF,50V	C9814			NBE20JM-226X	T CAPACITOR	22μF,6.3V
C9335			NDC31HJ-101X	CAPACITOR	100pF,50V	C9815			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9336			NCF31CZ-104X	CAPACITOR	0.1μF,16V	C9816			NEA70JM-476X	E CAPACITOR	47μF,6.3V
C9337			NBE20JM-226X	T CAPACITOR	22μF,6.3V	C9817			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9339			NCB31HK-102X	CAPACITOR	0.001μF,50V	C9818			NEA71CM-476X	E CAPACITOR	47μF,16V
C9340			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9819			NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9341			NCB31HK-102X	CAPACITOR	0.001μF,50V	C9820			NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9601			NEA70JM-476X	E CAPACITOR	47μF,6.3V	C9821			NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9602			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9824			NCB31EK-682X	CAPACITOR	0.0068μF,25V
C9603			NEA71CM-476X	E CAPACITOR	47μF,16V	C9825			NCB31EK-682X	CAPACITOR	0.0068μF,25V
C9604			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9826			NCB31HK-332X	CAPACITOR	0.0033μF,50V
C9605			NEA70JM-107X	E CAPACITOR	100μF,6.3V	C9827			NCB31HK-332X	CAPACITOR	0.0033μF,50V
C9606			NCB31HK-103X	CAPACITOR	0.01μF,50V	C9830			NCB31CK-104X	CAPACITOR	0.1μF,16V
C9607			NEA71CM-476X	E CAPACITOR	47μF,16V	C9831			NCB31CK-104X	CAPACITOR	0.1μF,16V
C9608			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8105			NQL024J-150X	COIL	15μH
C9609			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L8111			NQL144K-100X	COIL	10μH
C9610			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8112			NQL144K-100X	COIL	10μH
C9611			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L8113			NQL144K-100X	COIL	10μH
C9612			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8115			NQL144K-100X	COIL	10μH
C9613			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L8116			NQL144K-100X	COIL	10μH
C9614			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8117			NQL144K-100X	COIL	10μH
C9615			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L8401			NQL024J-100X	COIL	10μH
C9616			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8601			NQL024J-150X	COIL	15μH
C9617			NEA70JM-226X	E CAPACITOR	22μF,6.3V	L8602			NQL024J-330X	COIL	33μH
C9618			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8603			NQL144K-100X	COIL	10μH
C9619			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L8604			NQL024J-150X	COIL	15μH
C9620			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8605			NQL024J-330X	COIL	33μH
C9621			NBE20JM-226X	T CAPACITOR	22μF,6.3V	L8606			NQL144K-100X	COIL	10μH
C9623			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8607			NQL024J-330X	COIL	33μH
C9624			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8608			NQL024J-150X	COIL	15μH
C9625			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8613			NQL024J-330X	COIL	33μH
C9626			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8614			NQL024J-150X	COIL	15μH
C9627			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8615			NQL144K-100X	COIL	10μH
C9629			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	L8616			NQL144K-100X	COIL	10μH
C9631			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	L8617			NQL024J-120X	COIL	12μH
C9640			NCB31HK-103X	CAPACITOR	0.01μF,50V	L8803			NQR0337-001X	COIL	
C9641			NCB31HK-103X	CAPACITOR	0.01μF,50V	L9302			NQL144K-100X	COIL	10μH
C9642			NCB31HK-103X	CAPACITOR	0.01μF,50V	L9610			NQL144K-100X	COIL	10μH
C9643			NCB31HK-103X	CAPACITOR	0.01μF,50V	L9801			NQL144K-100X	COIL	10μH
C9644			NCB31HK-103X	CAPACITOR	0.01μF,50V	L9802			NQL144K-100X	COIL	10μH
C9645			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC8401			PELN1148-223X	NOISE FILTER	
C9646			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9601			PELN1148-223X	NOISE FILTER	
C9647			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9602			PELN1148-223X	NOISE FILTER	
C9648			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9603			PELN1148-223X	NOISE FILTER	
C9649			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9604			PELN1148-223X	NOISE FILTER	
C9650			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9605			PELN1148-223X	NOISE FILTER	
C9651			NCB31HK-103X	CAPACITOR	0.01μF,50V	LC9606			PELN1148-223X	NOISE FILTER	
C9652			NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W	LC9608			PELN1148-223X	NOISE FILTER	
C9801			NEA71HM-105X	E CAPACITOR	1μF,50V	X8001			QAX0383-001	CRYSTAL RESONATOR	
C9802			NEA71HM-105X	E CAPACITOR	1μF,50V	X8401			NAX0338-001X	CRYSTAL RESONATOR	
C9803			NCB31HK-152X	CAPACITOR	0.0015μF,50V	X9001			NAX0353-001X	CRYSTAL RESONATOR	
C9804			NCB31HK-152X	CAPACITOR	0.0015μF,50V	X9301			QAX0541-001	CRYSTAL RESONATOR	
C9805			NCF31CZ-104X	CAPACITOR	0.1μF,16V	K8001			PELN0984-150Y	NOISE FILTER	
C9806			NCF31CZ-104X	CAPACITOR	0.1μF,16V	K8002			PELN0984-150Y	NOISE FILTER	
C9807			NBE20JM-475X	T CAPACITOR	4.7μF,6.3V	K8101			PELN0984-150Y	NOISE FILTER	
C9808			NBE20JM-475X	T CAPACITOR	4.7μF,6.3V	K8401			PELN0968-600Y	NOISE FILTER	
C9809			NCF31CZ-104X	CAPACITOR	0.1μF,16V	K8402			PELN0984-150Y	NOISE FILTER	
C9810			NBE20JM-226X	T CAPACITOR	22μF,6.3V	K8403			NQR0339-001X	FERRITE BEAD	

△ REF No.	PART No.	PART NAME, DESCRIPTION
K8404	NQR0339-001X	FERRITE BEAD
K9001	PELN0984-150Y	NOISE FILTER
K9002	PELN0984-150Y	NOISE FILTER
K9301	PELN0984-150Y	NOISE FILTER
K9302	PELN0984-150Y	NOISE FILTER
K9303	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9304	NQR0129-002X	FERRITE BEAD
K9305	NQR0129-002X	FERRITE BEAD
K9306	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9307	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9308	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9309	PELN0984-150Y	NOISE FILTER
K9310	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9311	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9312	NQR0129-002X	FERRITE BEAD
K9313	PELN0984-150Y	NOISE FILTER
K9314	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9601	PELN0984-150Y	NOISE FILTER
K9602	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
K9603	PELN0984-150Y	NOISE FILTER
FL8101	NQR0336-001X	LOW PASS FILTER
SD1	LP20850-001A	SHIELD CASE(DIGITAL)
SD2	LP20851-001A	SHIELD FRAME(DIGITAL)
SD3	LP20852-001A	SHIELD PLATE(DIGITAL)
OT1	LP40629-001A	SHEET(DIGITAL)
OT2	LP40614-001A	SPACER
OT3	PU43192-4	BINDER,X3
OT4	PU59915-105	#500SPACER0.01,WR3
OT5	PU59915-110	#500SPACER0.014,Q9301
OT6	PU59915-105	#500SPACER0.01,WR4,5
WR1	YU40017-100-1	THIN WIRE
WR2	YU40017-140-1	WIRE
WR3	QUB560-14A1A4	SIN TWIST WIRE,Q9301
WR4	YU40017-035-3	THIN WIRE
WR5	YU40017-035-3	THIN WIRE
WR100	QJJ016-094014	SIN CR C-C WIRE,MAIN
WR102	QJJ016-073812	SIN CR C-C WIRE,MAIN
WR103	QJN007-096021	SHI CR C-C WIRE,MAIN
WR104	QJJ016-044213	SIN CR C-C WIRE,MAIN
WR105	QJN008-067021	SHI CR C-C WIRE,S SUB
WR106	QJJ013-035421	SIN CR C-C WIRE,REG
WR107	QJJ013-045411	SIN CR C-C WIRE,REG
WR108	QJJ001-064811	SIN CR C-C WIRE,REG
WR109	WJX0004-002A	E-COAXIAL ASSY,DP/R
WR110	QUD030-58CWCW	COAXIAL WIRE,DP/R
J8801	QNZ0415-001	D CONNECTOR
CN8001	QNN0161-001	PIN JACK,RCA MINI
CN8002	QNN0161-001	PIN JACK,RCA MINI
CN8601	QGA2001F2-06X	CONNECTOR,(1-6)3D SVHS
CN9001	QGA2001F2-09X	CONNECTOR,(1-9)MAIN
CN9002	QGA2001F2-04X	CONNECTOR,(1-4)SW REG
CN9003	QGA2001F2-07X	CONNECTOR,(1-6)SW REG
CN9004	QGF1211F1-04W	FPC CONNECTOR,(1-4)JIG
CN9005	QGF1211F1-05W	FPC CONNECTOR,(1-5)
CN9601	QGA2001F2-03X	CONNECTOR,(1-3)SW REG
CN9602	QGA2001F2-04X	CONNECTOR,(1-4)SW REG
CN9603	QGA2001F2-06X	CONNECTOR,(1-6)SW REG
CN9801	QGA2001F2-09X	CONNECTOR,(1-9)MAIN

# △ REF No.	PART No.	PART NAME, DESCRIPTION
-------------	----------	------------------------